SYLVANIA

SERVICE MANUAL

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- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's
- Exploded views
- Parts List

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- Alignment Procedures of Mechanism
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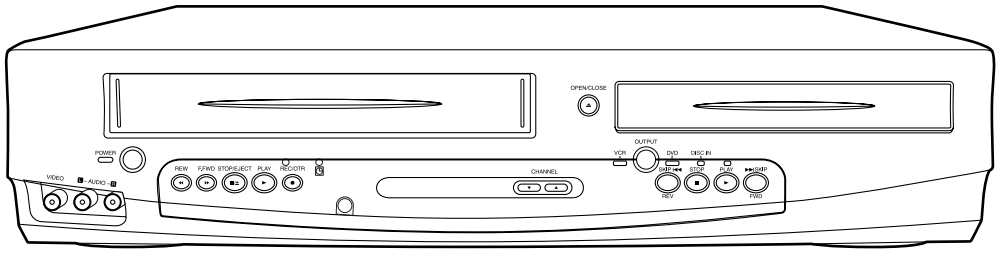
- Deck Parts List

DVD PLAYER & VIDEO CASSETTE RECORDER

SRD4900



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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MAIN SECTION

DVD PLAYER & VIDEO CASSETTE RECORDER

SRD4900

Sec. 1: Main Section
- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA's**
- **Exploded Views**
- **Parts List**

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SPECIFICATIONS

< VCR Section >

Description	Unit	Minimum	Nominal	Maximum	Remark
1. Video					
1-1. Video Output (PB)	Vp-p	0.8	1.0	1.2	SP Mode
1-2. Video Output (R/P)	Vp-p	0.8	1.0	1.2	
1-3. Video S/N Y (R/P)	dB	40	45		SP Mode, W/O Burst
1-4. Video Color S/N AM (R/P)	dB	37	41		SP Mode
1-5. Video Color S/N PM (R/P)	dB	30	36		SP Mode
1-6. Resolution (PB)	Line	230	245		SP Mode
2. Servo					
2-1. Jitter Low	μsec		0.07	0.12	SP Mode
2-2. Wow & Flutter	%		0.3	0.5	SP Mode
3. Normal Audio					
3-1. Output (PB)	dBV	-9	-6	-3	SP Mode
3-2. Output (R/P)	dBV	-9	-6	-1.5	SP Mode
3-3. S/N (R/P)	dB	36	41		SP Mode
3-4. Distortion (R/P)	%		1.0	4.0	SP Mode
3-5. Freq. resp (R/P) at 200Hz	dB	-11	-4		SP Mode
(-20dB ref. 1kHz) at 8kHz	dB	-14	-4		SP Mode
4. Tuner					
4-1. Video output	Vp-p	0.8	1.0	1.2	E-E Mode
4-2. Video S/N	dB	39	42		E-E Mode
4-3. Audio output	dB	-10	-6	-2	E-E Mode
4-4. Audio S/N	dB	40	46		E-E Mode
5. Hi-Fi Audio					
5-1. Output	dBV	-12	-8	-4	SP Mode
5-2. Dynamic Range	dB	70	85		SP Mode
5-3. Freq. resp (6dB B.W)	Hz		20 ~ 20K		SP Mode

Note: Nominal specs represent the design specs. All units should be able to approximate these – some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; In no case should a unit fail to meet limit specs.

< DVD Section >

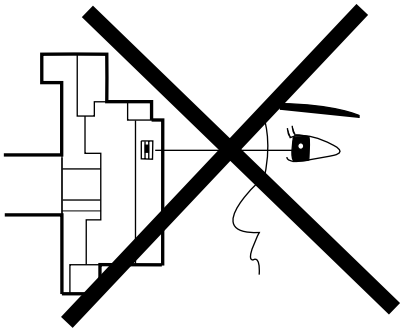
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1. Video Output	75 ohm load	Vpp	1.0	± 0.1
2. Coaxial Digital Out	75 ohm load	mVpp	500	± 50
3. Audio (PCM)				
3-1. Output Level	1 kHz 0 dB	Vrms	2.0	
3-2. S/N		dB	90	
3-3. Freq. Response				
DVD	fs = 48 kHz ± 0.5dB	Hz	20~22 k	
CD	fs = 44.1 kHz ± 0.5dB	Hz	20~20 k	
3-4. THD+N				
DVD	1 kHz 0dB	%	0.01	
CD	1 kHz 0dB	%	0.01	

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply : AC120 V 60 Hz
3. Load imp. : 100 k ohm
4. Ambient Temperature : +25 °C

LASER BEAM SAFETY PRECAUTIONS

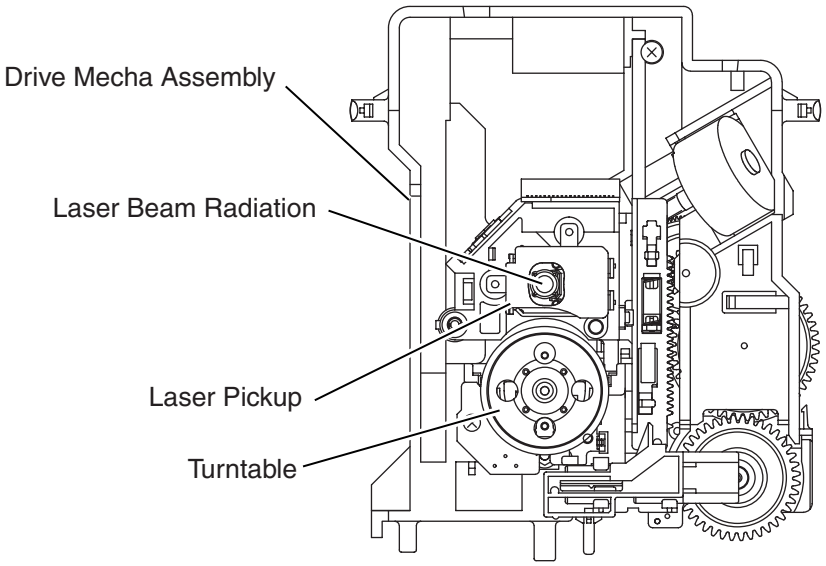
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

Caution: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced**.**

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1)Wires covered with PVC tubing

2)Double insulated wires

3)High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1)Insulation tape

2)PVC tubing

3)Spacers

4)Insulators for transistors

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

G. Check that replaced wires do not contact sharp edges or pointed parts.

H. When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure

1)Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not re-use a connector. (Discard it.)

2)Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

3)Align the lengths of the wires to be connected. Insert the wires fully into the connector.

4)Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
120 V	≥ 3.2mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

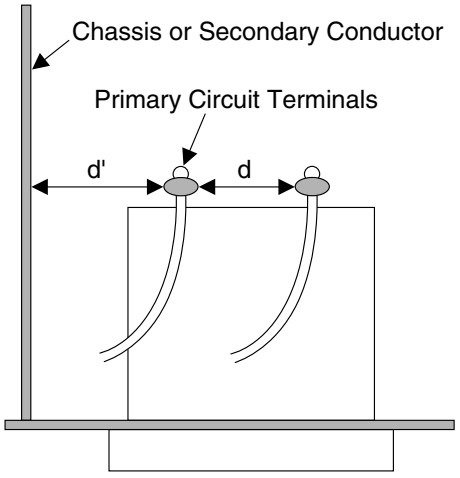


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON) :

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

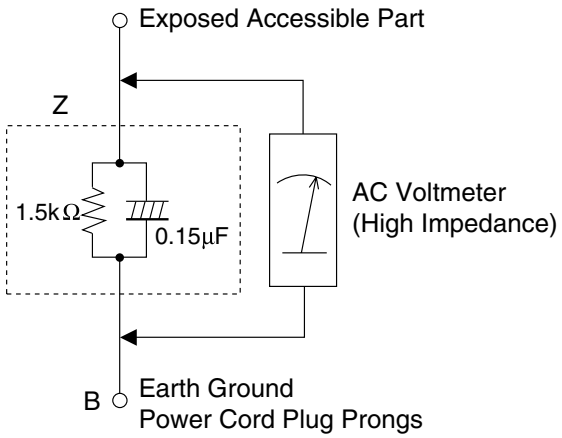


Fig. 2

Table 2: Leakage current ratings for selected areas

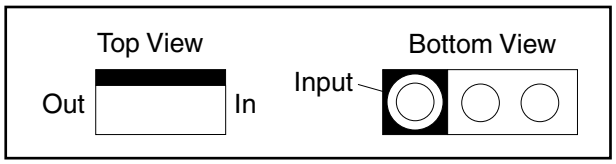
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15μF CAP. & 1.5kΩ RES. Connected in parallel	i≤0.5mA Peak	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

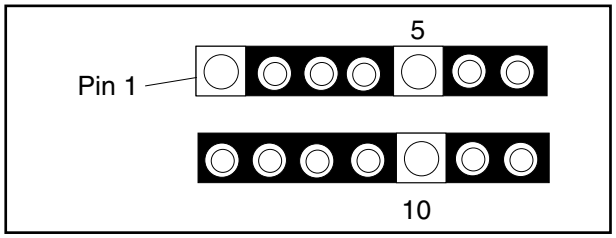
STANDARD NOTES FOR SERVICING

Circuit Board Indications

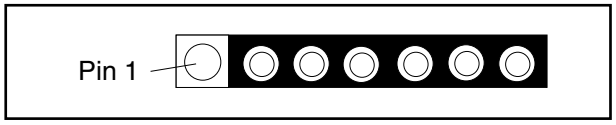
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

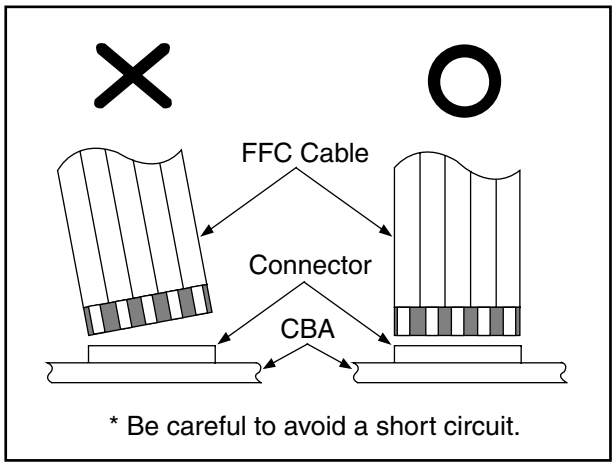


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:.

(1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

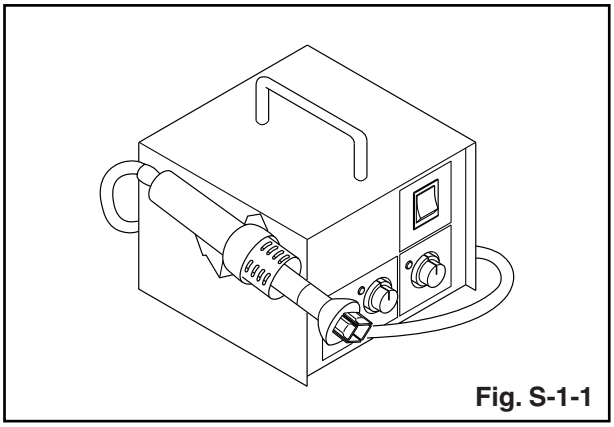


Fig. S-1-1

(2) Remove the flat pack-IC with tweezers while applying the hot air.

(3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Caution:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

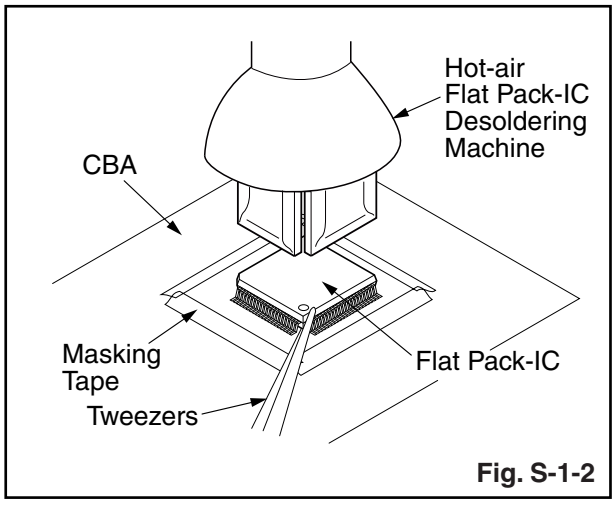


Fig. S-1-2

With Soldering Iron:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

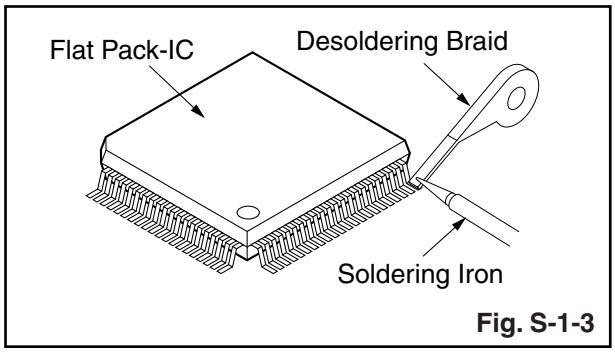


Fig. S-1-3

(2) Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

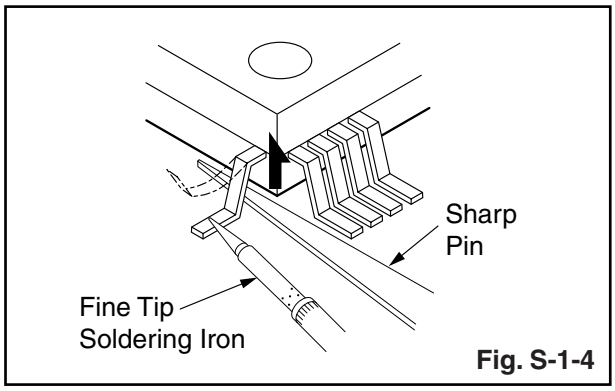


Fig. S-1-4

(3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

(2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

(3) While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.

(4) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(5) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note:

When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

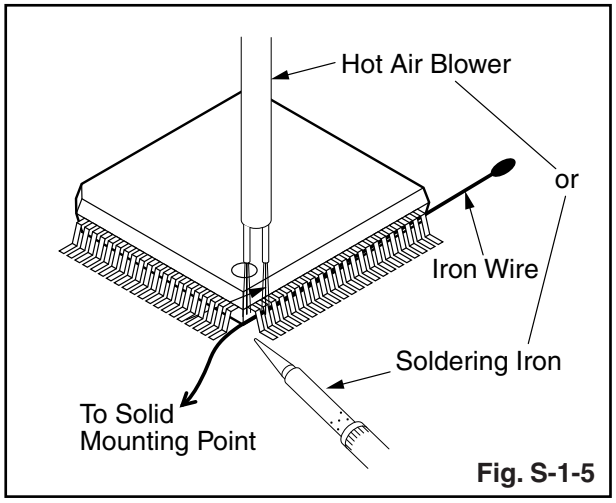


Fig. S-1-5

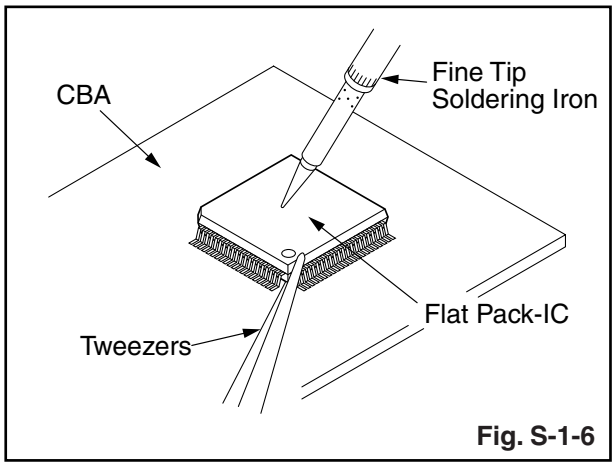


Fig. S-1-6

2. Installation

(1) Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.

(2) The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)

(3) Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

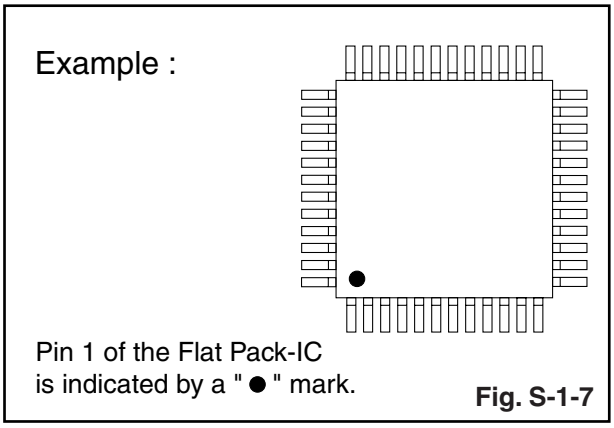


Fig. S-1-7

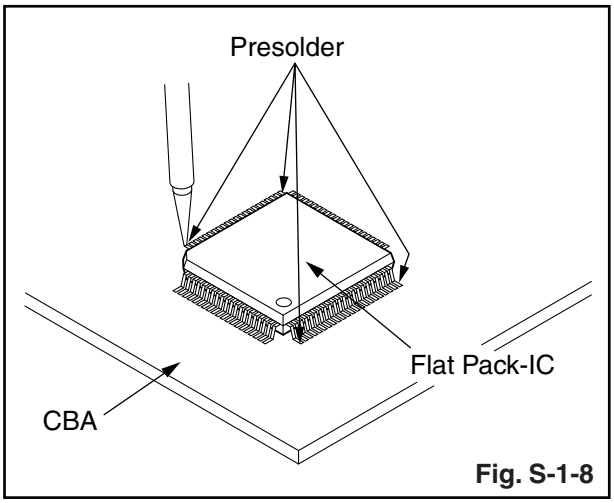


Fig. S-1-8

Instructions for Handling Semi-conductors

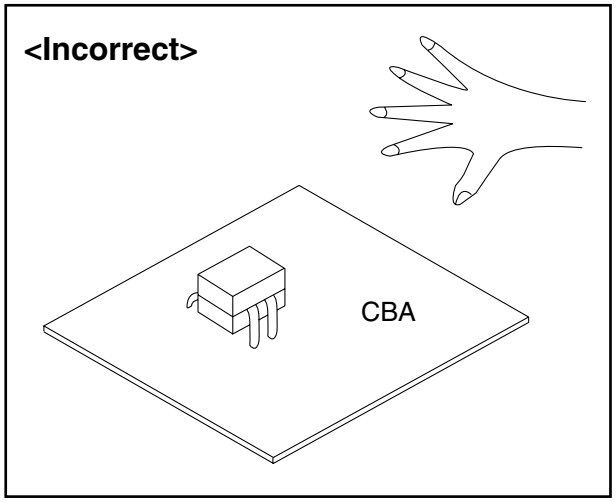
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

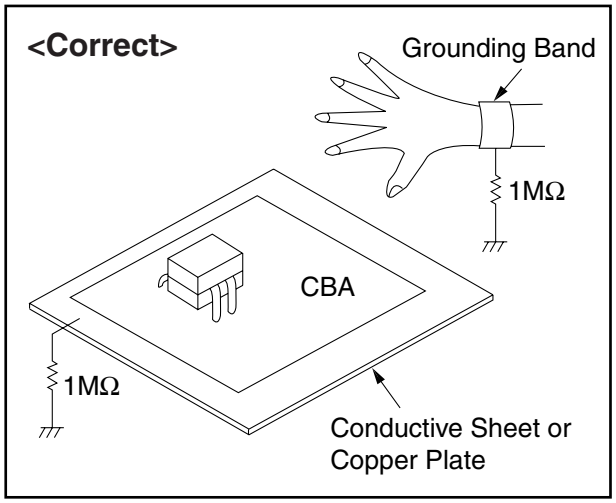
1. Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

(1) Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





PREPARATION FOR SERVICING

How to Enter the Service Mode

About Optical Sensors

Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

Insert a tape into the Deck Mechanism Assembly and press the PLAY button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect TP502 (S-INH) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

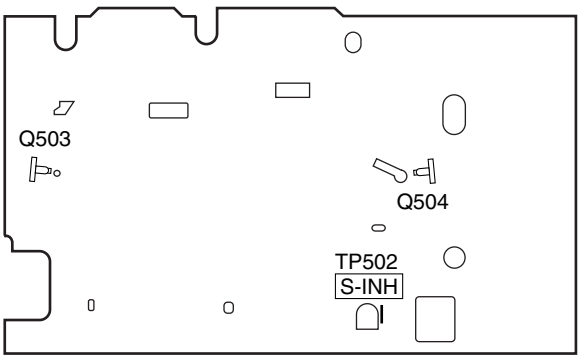


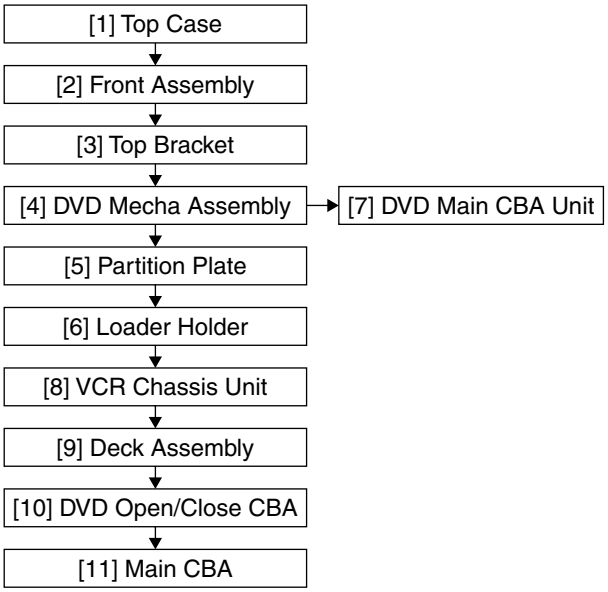
Fig. 1

Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Top Case	D1	4(S-1)	-
[2]	Front Assembly	D2	*3(L-1), *3(L-2)	1 1-1 1-2
[3]	Top Bracket	D2	3(S-2)	-
[4]	DVD Mecha Assembly	D3	4(S-3), *CN401, *CN601	-
[5]	Partition Plate	D3	2(S-4)	-
[6]	Loader Holder	D3	2(S-5)	-
[7]	DVD Main CBA Unit	D4	(S-6), *CN201, *CN301	2 2-1 2-2 3
[8]	VCR Chassis Unit	D5	5(S-7), (S-8)	-
[9]	Deck Assembly	D6	Desolder, (S-9), (S-10), (S-11)	4,5
[10]	DVD Open/ Close CBA	D6	Desolder	-
[11]	Main CBA	D6	----------	-
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1): Identification (location) No. of parts in the figures

(2): Name of the part

(3): Figure Number for reference

(4): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, L=Locking Tab, S=Screw,
CN=Connector
*=Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5): Refer to “Reference Notes.”

Reference Notes

CAUTION 1: Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.

1-1. Release three Locking Tabs (L-1).

1-2. Release three Locking Tabs (L-2), then remove the Front Assembly.

CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc, during unpacking or repair work.

To avoid damage of pickup follow next procedures.

2-1. Disconnect Connector (CN301). Remove a Screw (S-6) and lift the DVD Main CBA Unit. (Fig. D4)

2-2. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D4)

CAUTION 3: When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D4)

4. When reassembling, solder wire jumpers as shown in Fig. D6.

5. Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. D6. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D6.

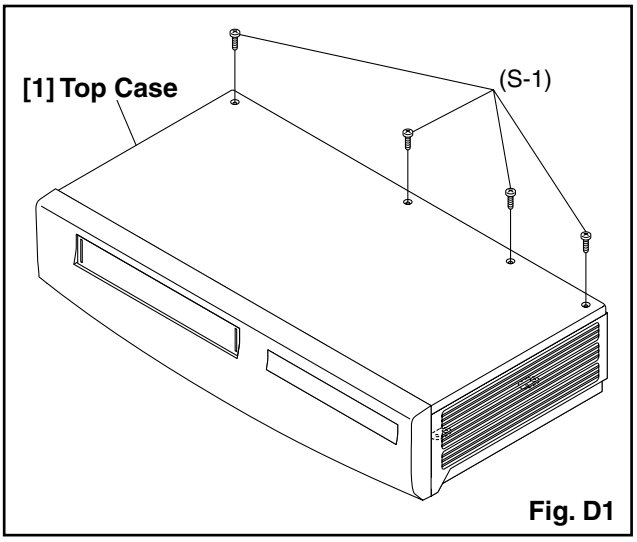


Fig. D1

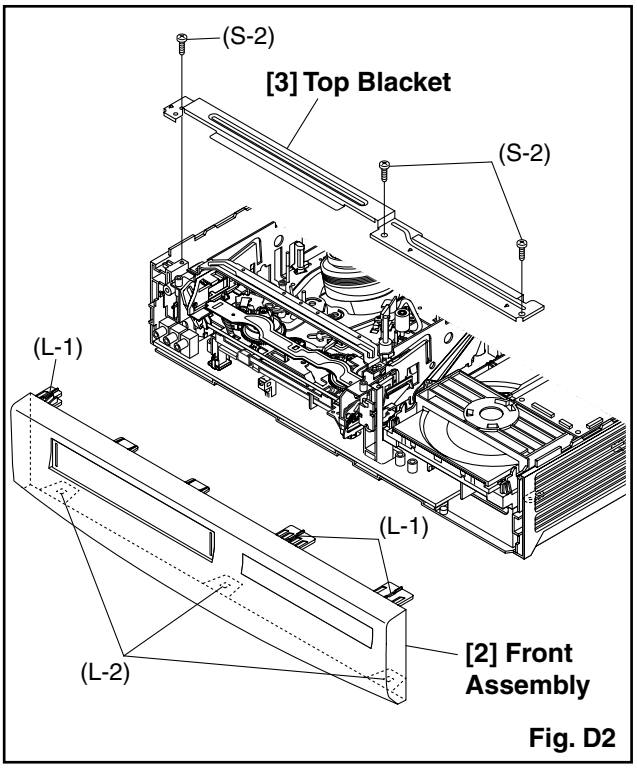


Fig. D2

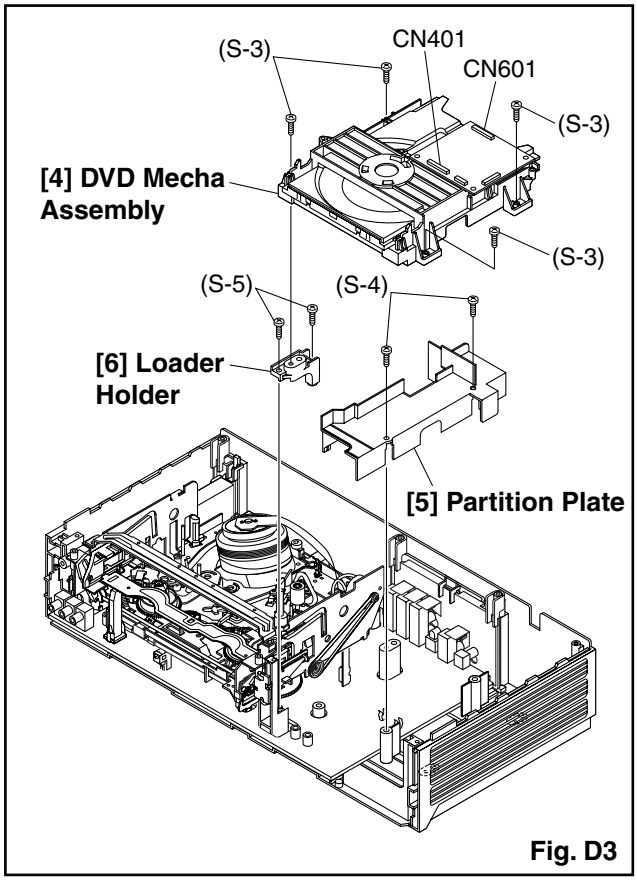


Fig. D3

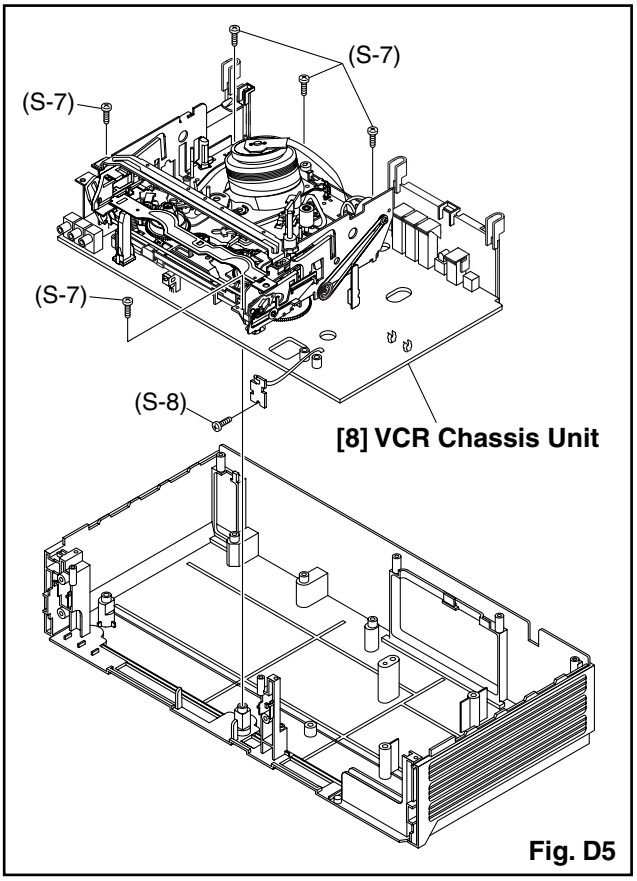


Fig. D5

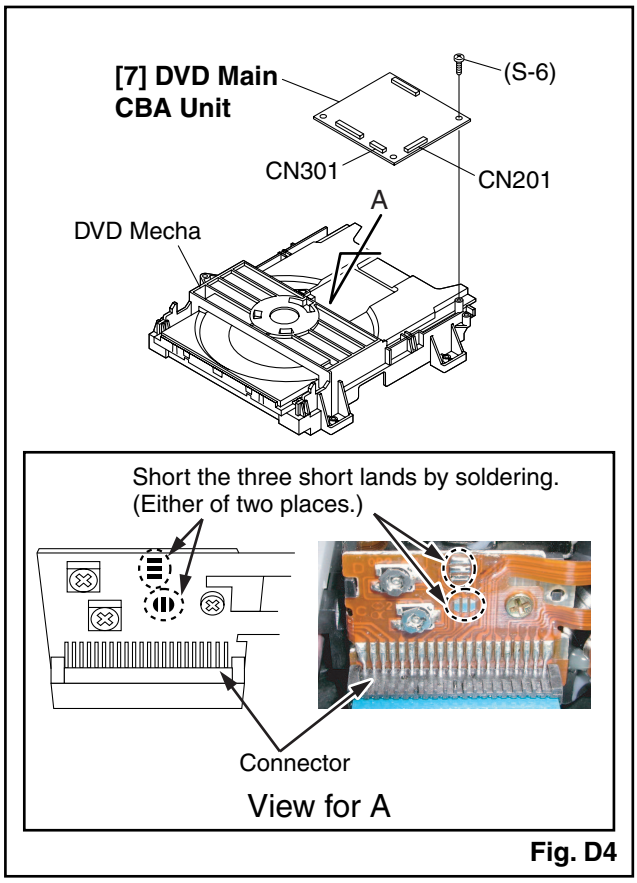
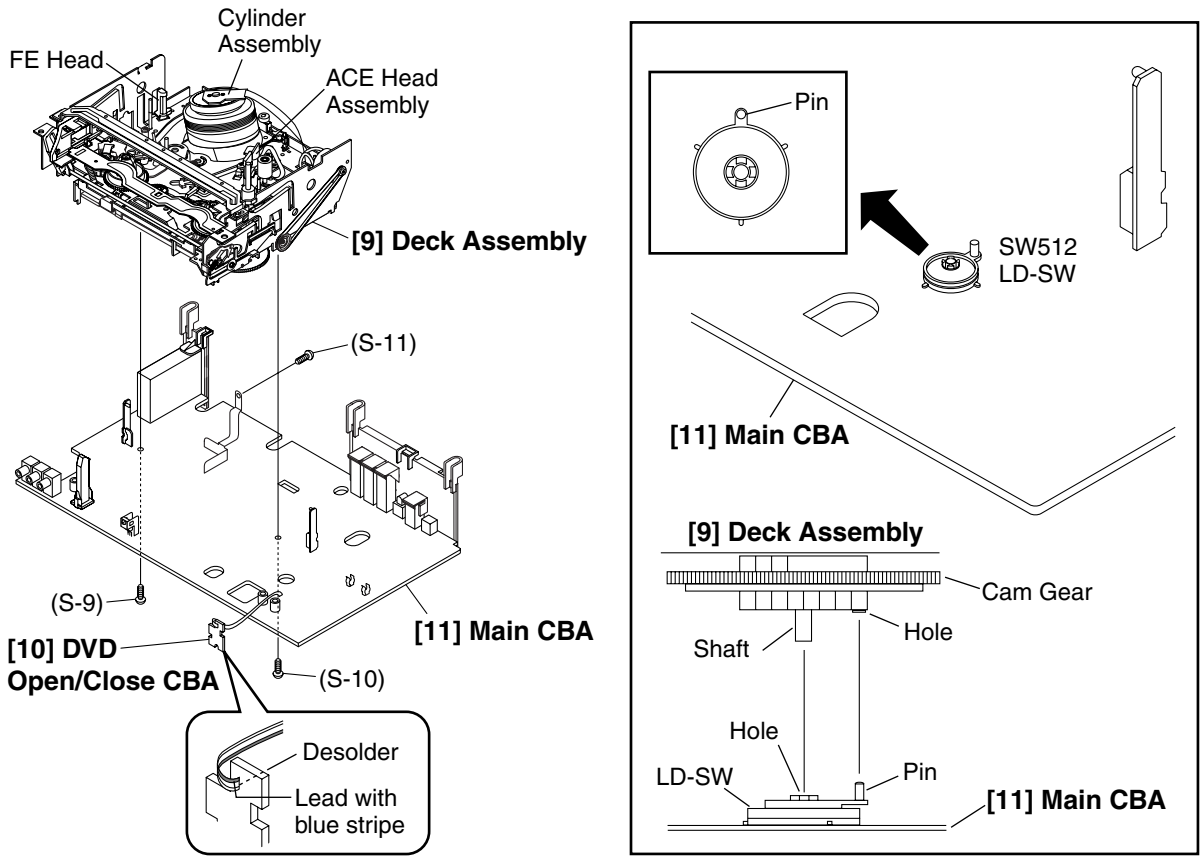
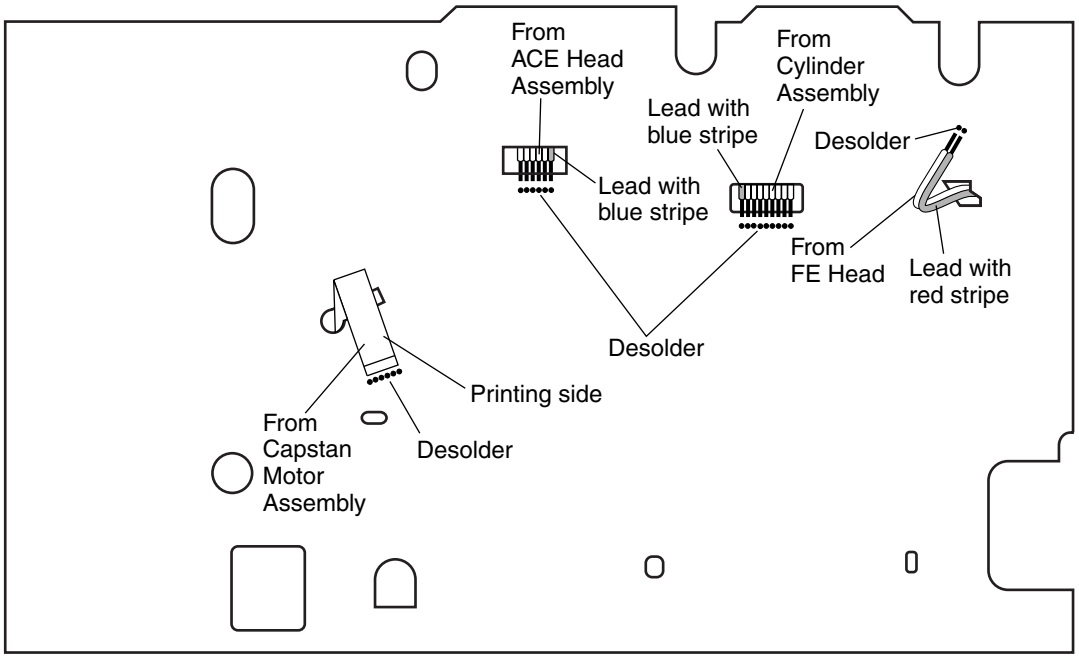


Fig. D4





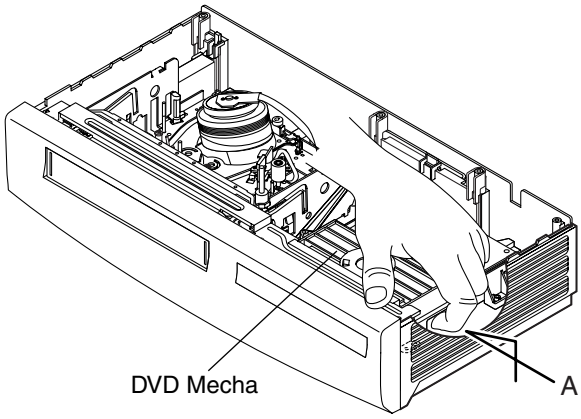
BOTTOM VIEW

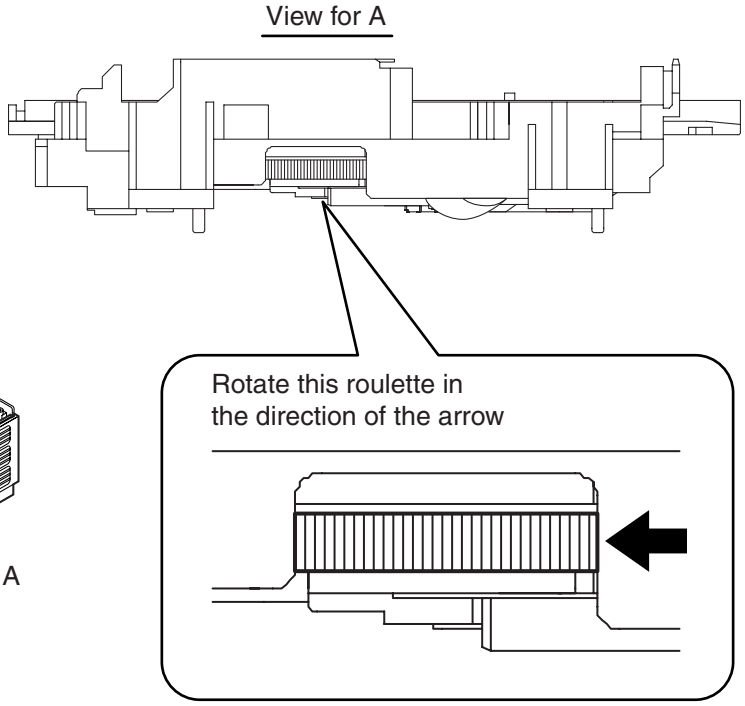
Lead connections of Deck Assembly and Main CBA

Fig. D6

HOW TO EJECT MANUALLY

1. Remove the Top Case.
2. Rotate the roulette in the direction of the arrow as shown below.
3. Pull the tray slowly with a hand.





ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is an abbreviation for "Circuit Board Assembly."

NOTE:

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: Press either "CHANNEL ▼" or "CHANNEL ▲" button on the front panel first, then the "PLAY" button on the front panel.

Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50V/Div.,
   F-Range: DC~AC-20MHz
2. Alignment Tape (FL8A)

Head Switching Position Adjustment

Purpose:

To determine the Head Switching position during playback.

Symptom of Misadjustment:

May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj.Point	Mode	Input
TP751(V-OUT) TP302(RF-SW) GND	VR501 (Switching Point) (MAIN CBA)	PLAY (SP)	-----
Tape	**Measurement Equipment**	**Spec.**	
FL8A	Oscilloscope	6.5H±1H (412.7μs±63.5μs)	

Connections of Measurement Equipment

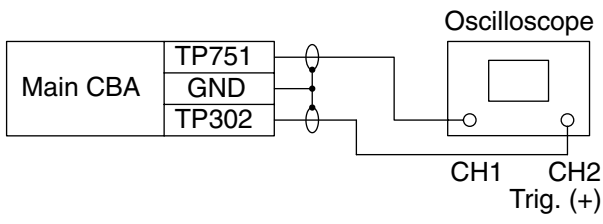
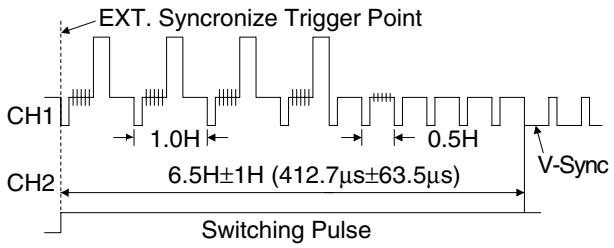


Figure 1



Reference Notes:

Playback the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H±1H (412.7μs±63.5μs) delayed position from the rising edge of the CH2 head switching pulse waveform.

FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD player into version up mode, press [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order. The tray will open automatically.
   Fig. a appears on the screen.

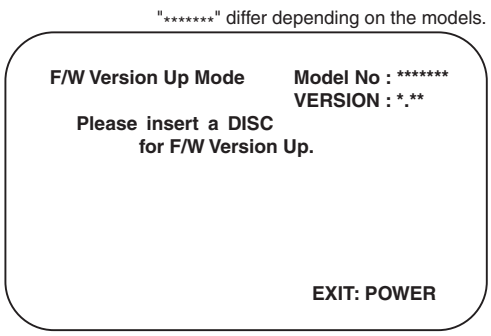


Fig. a Version Up Mode Screen

   The DVD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The DVD player enters the F/W version up mode automatically. Fig. c appears on the screen. If you enter the F/W for different models, “Disc Error” will appear on the screen, then the tray will open automatically.

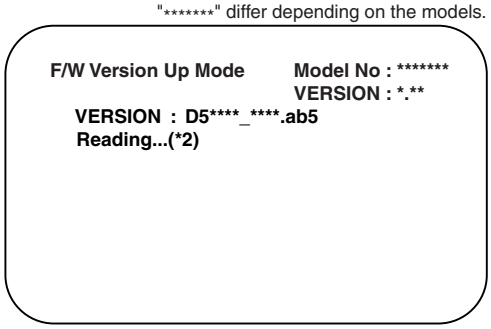


Fig. c Programming Mode Screen

   The appearance shown in (*2) of Fig. c is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. e appears on the screen and the checksum in (*3) of Fig. e.

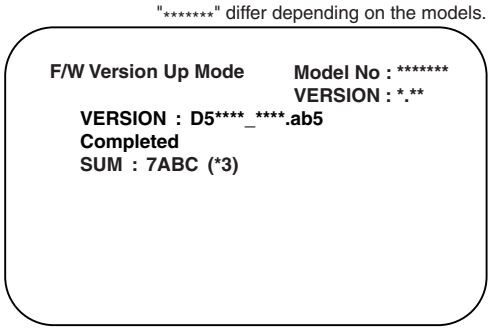


Fig. e Completed Program Mode Screen

   At this time, no buttons are available.

6. Remove the disc on the tray.
7. Unplug the AC cord from the AC outlet. Then plug it again.
8. Turn the power on by pressing the [POWER] button and the tray will close.
9. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. g appears on the screen.

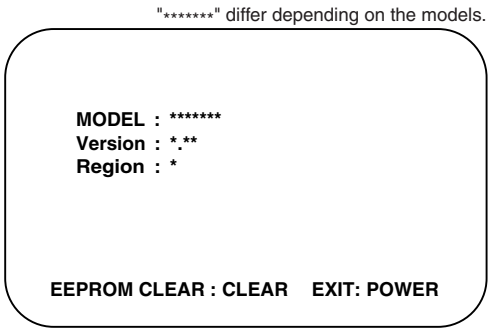


Fig. g

10. Press [CLEAR] button on the remote control unit.
    Fig. h appears on the screen.

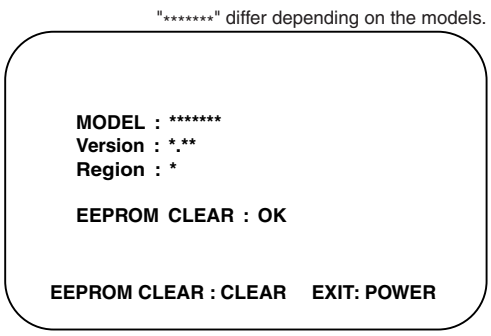


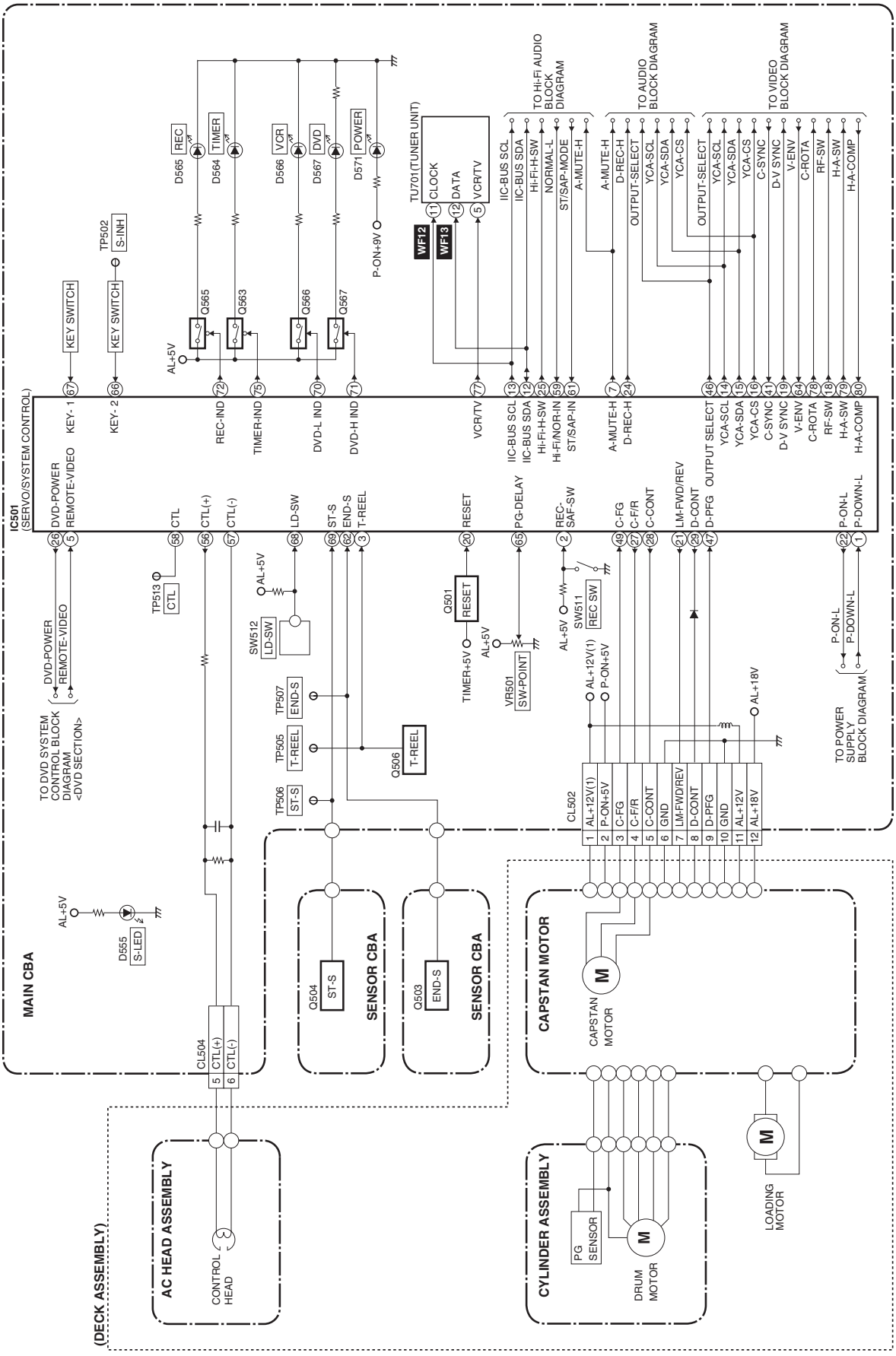
Fig. h

    When “OK” appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

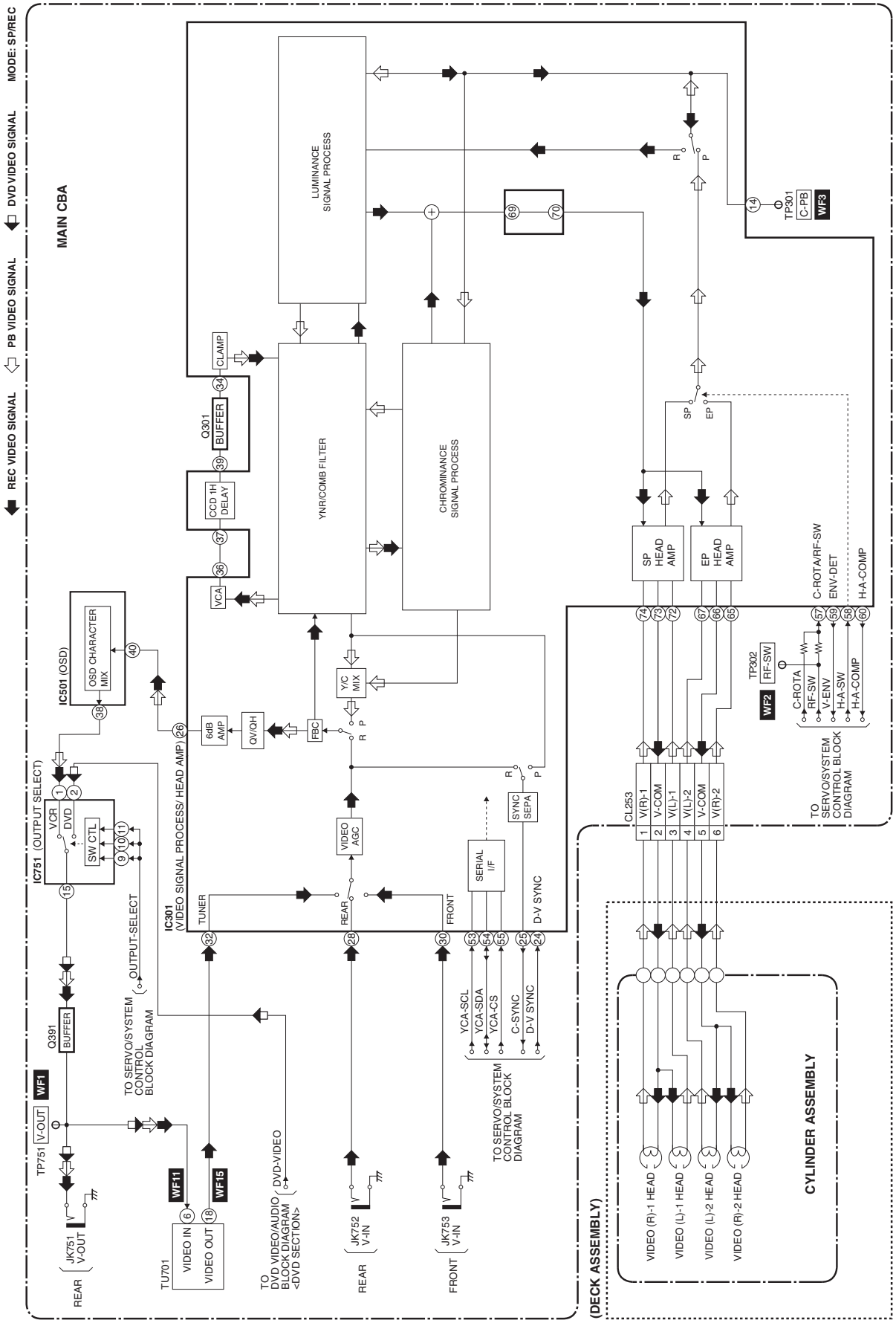
11. To exit this mode, press [POWER] button.

BLOCK DIAGRAMS

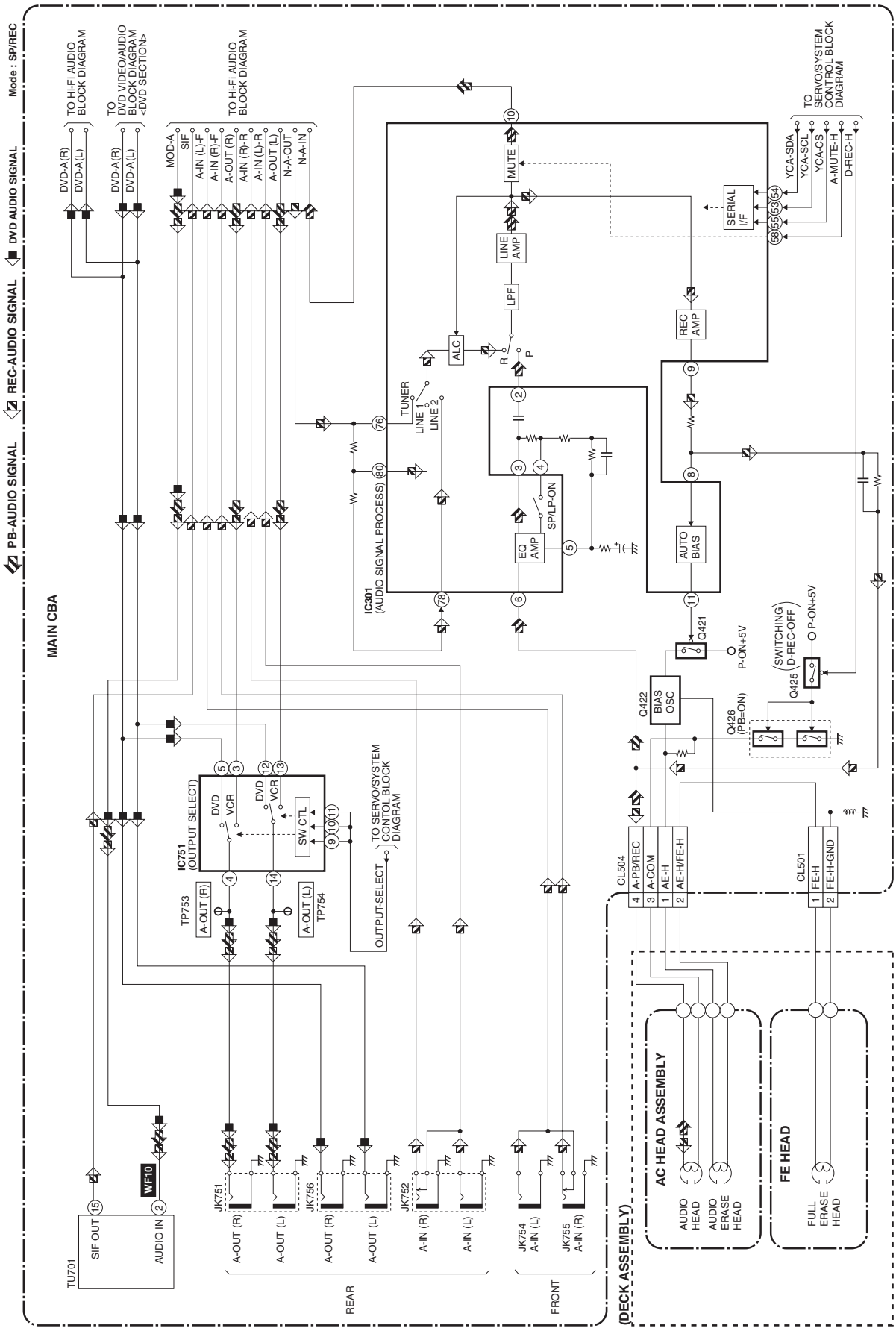
Servo / System Control Block Diagram



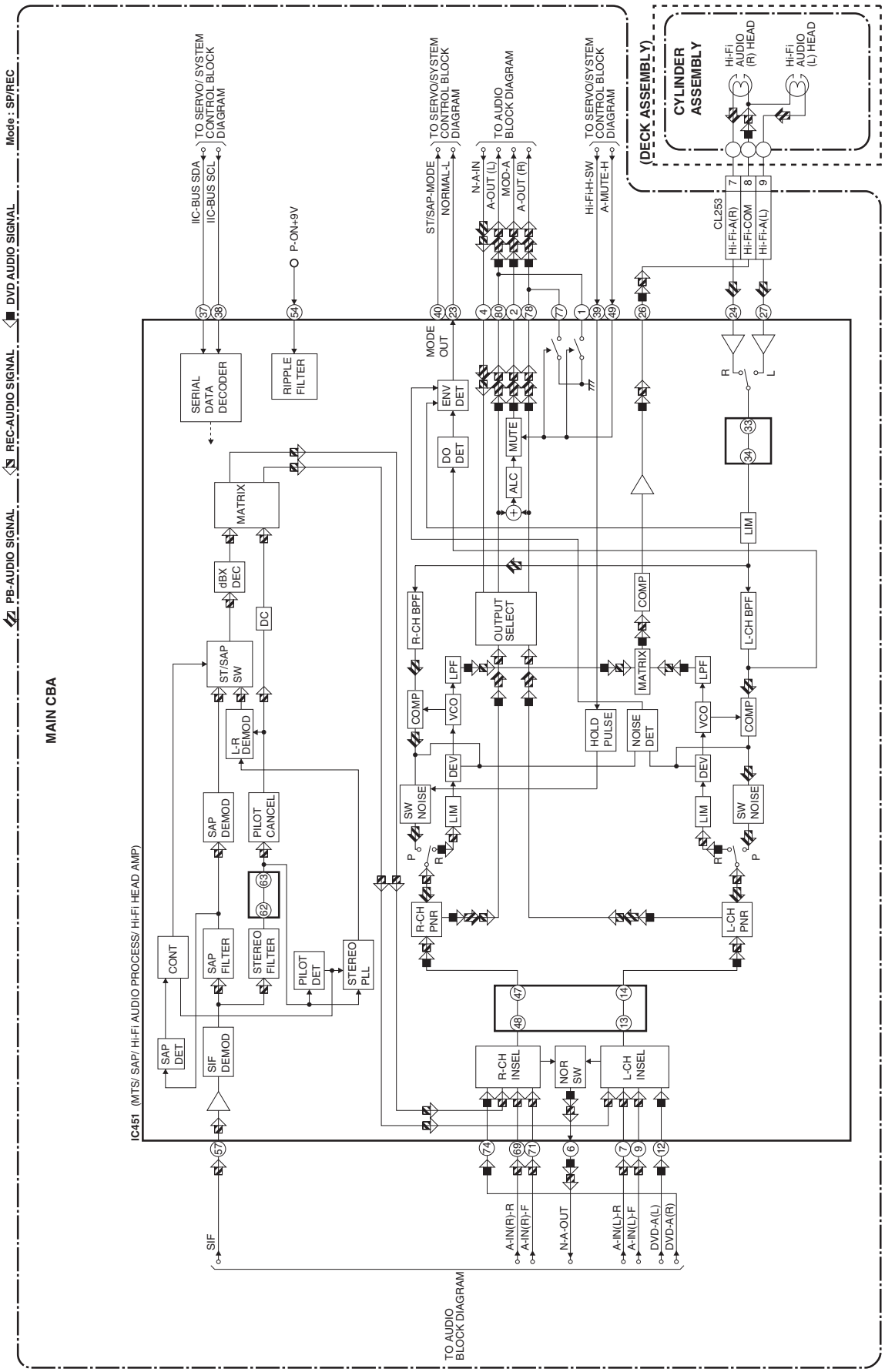
Video Block Diagram



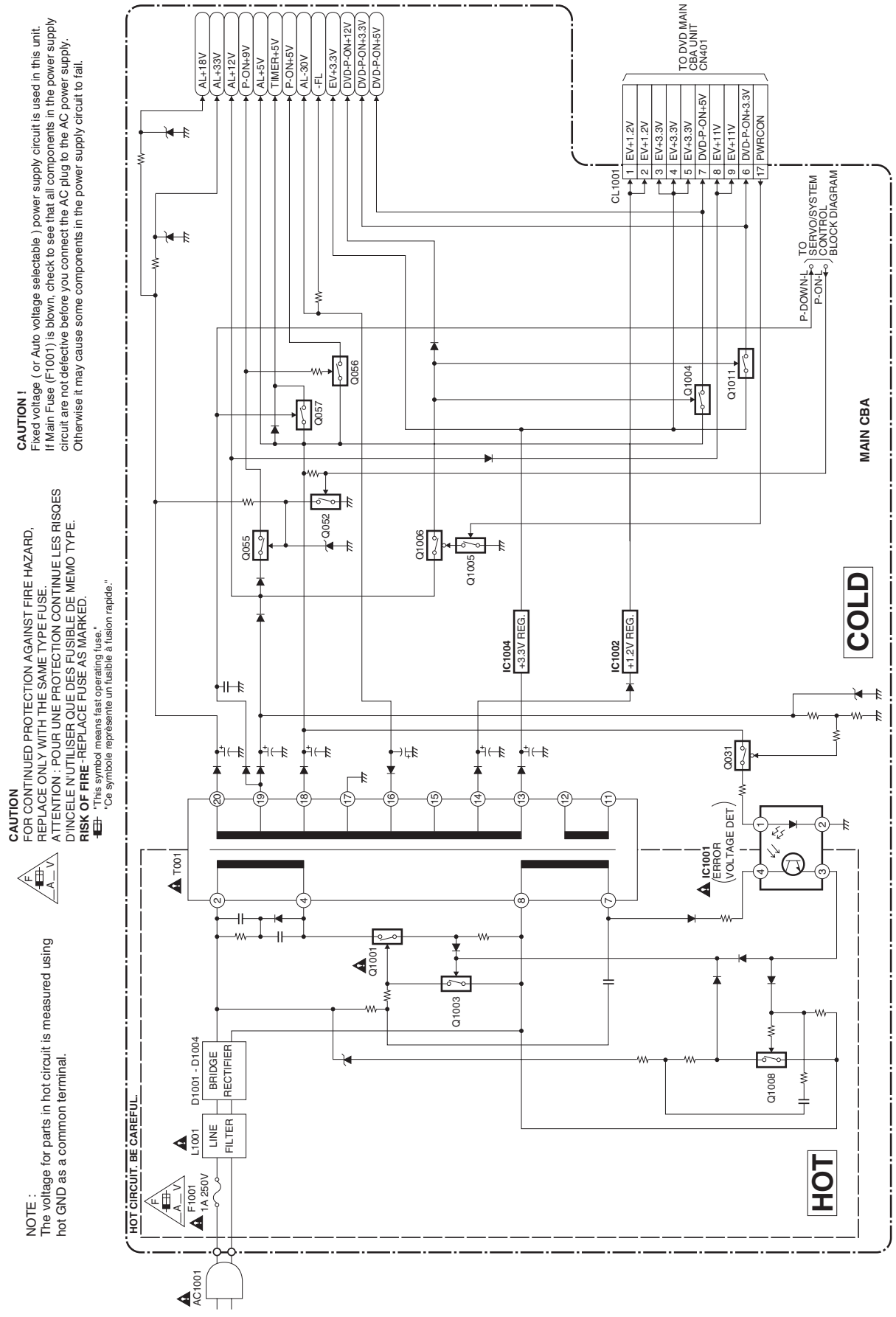
Audio Block Diagram



Hi-Fi Audio Block Diagram

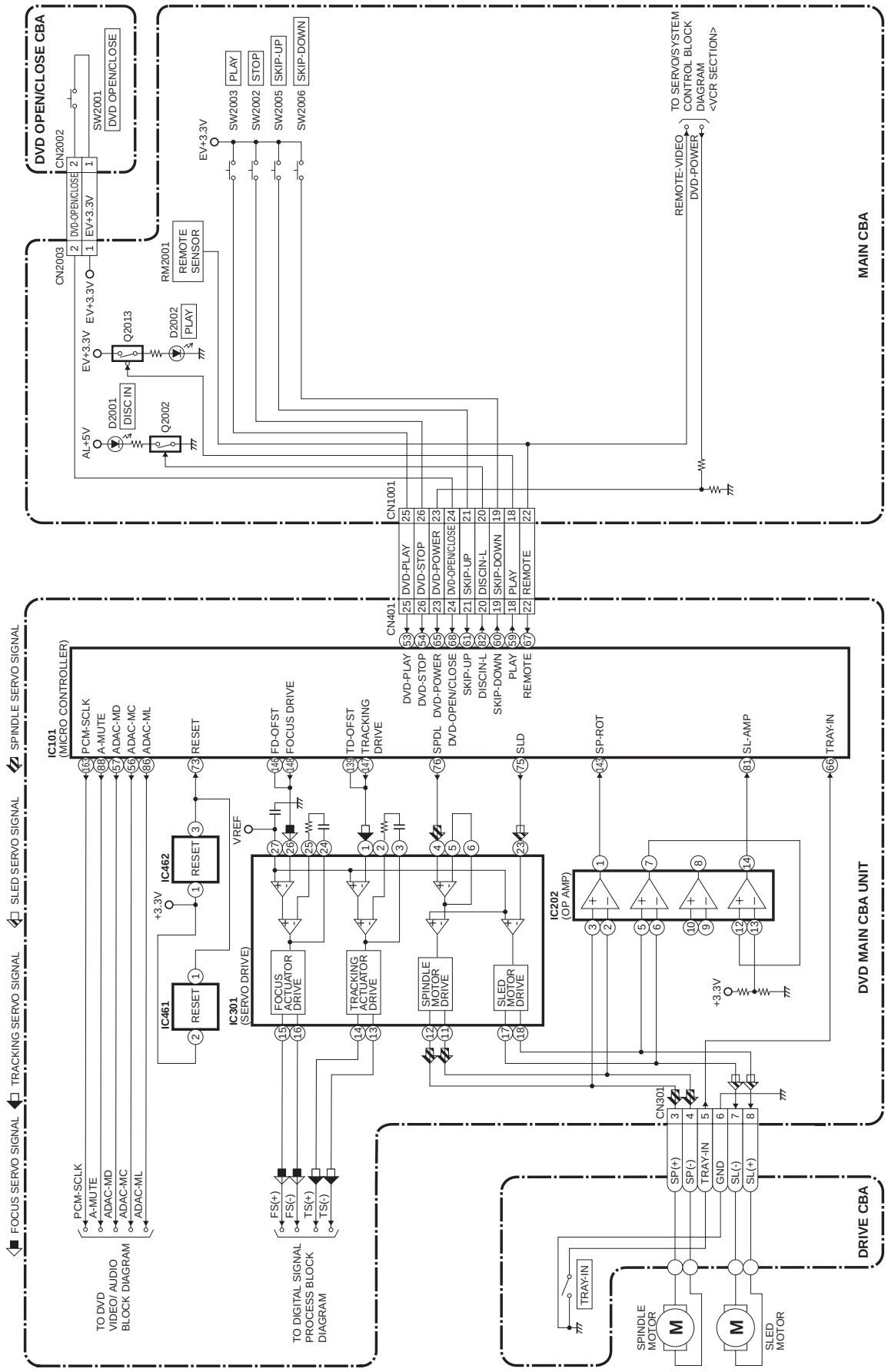


Power Supply Block Diagram

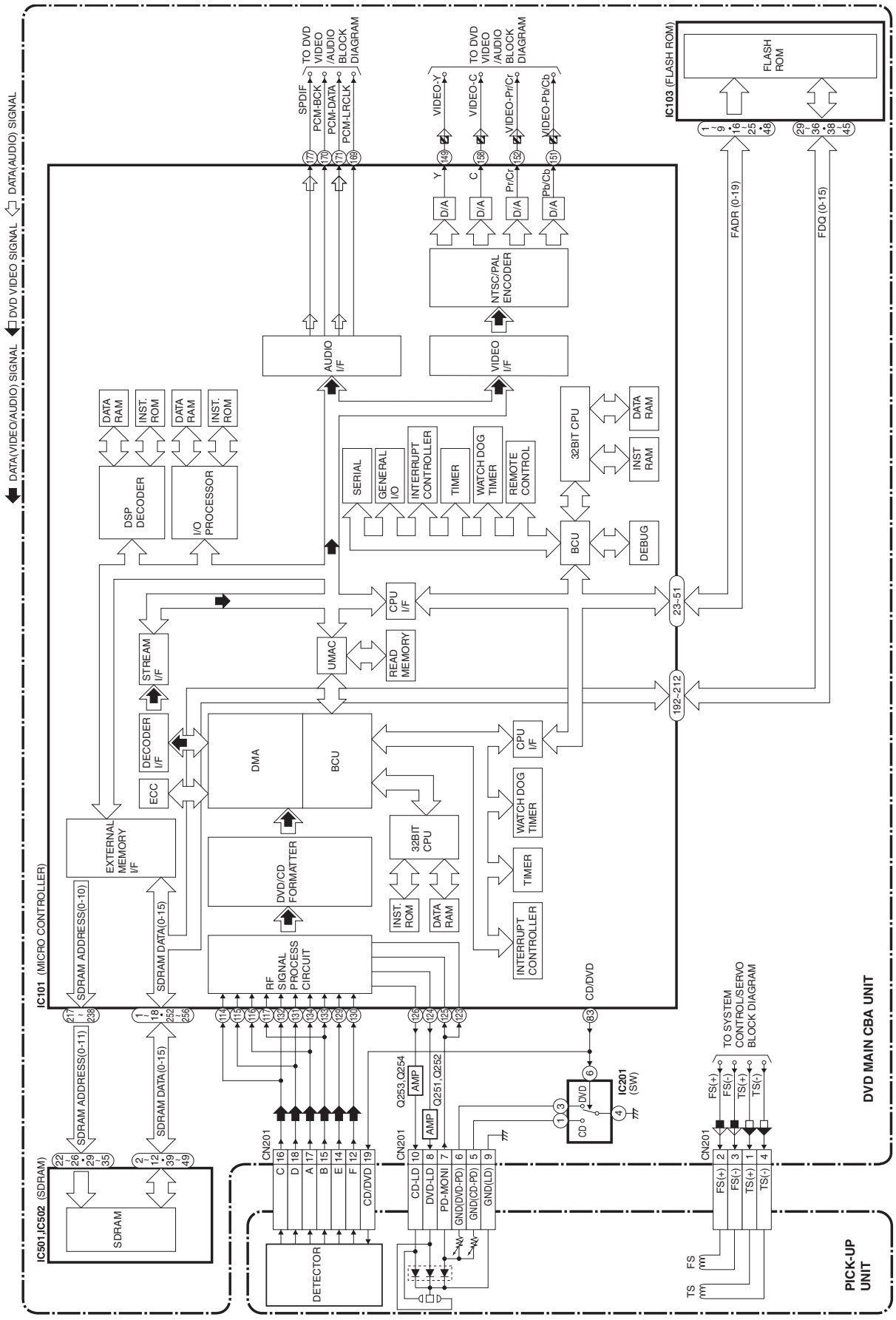


BLOCK DIAGRAMS <DVD SECTION>

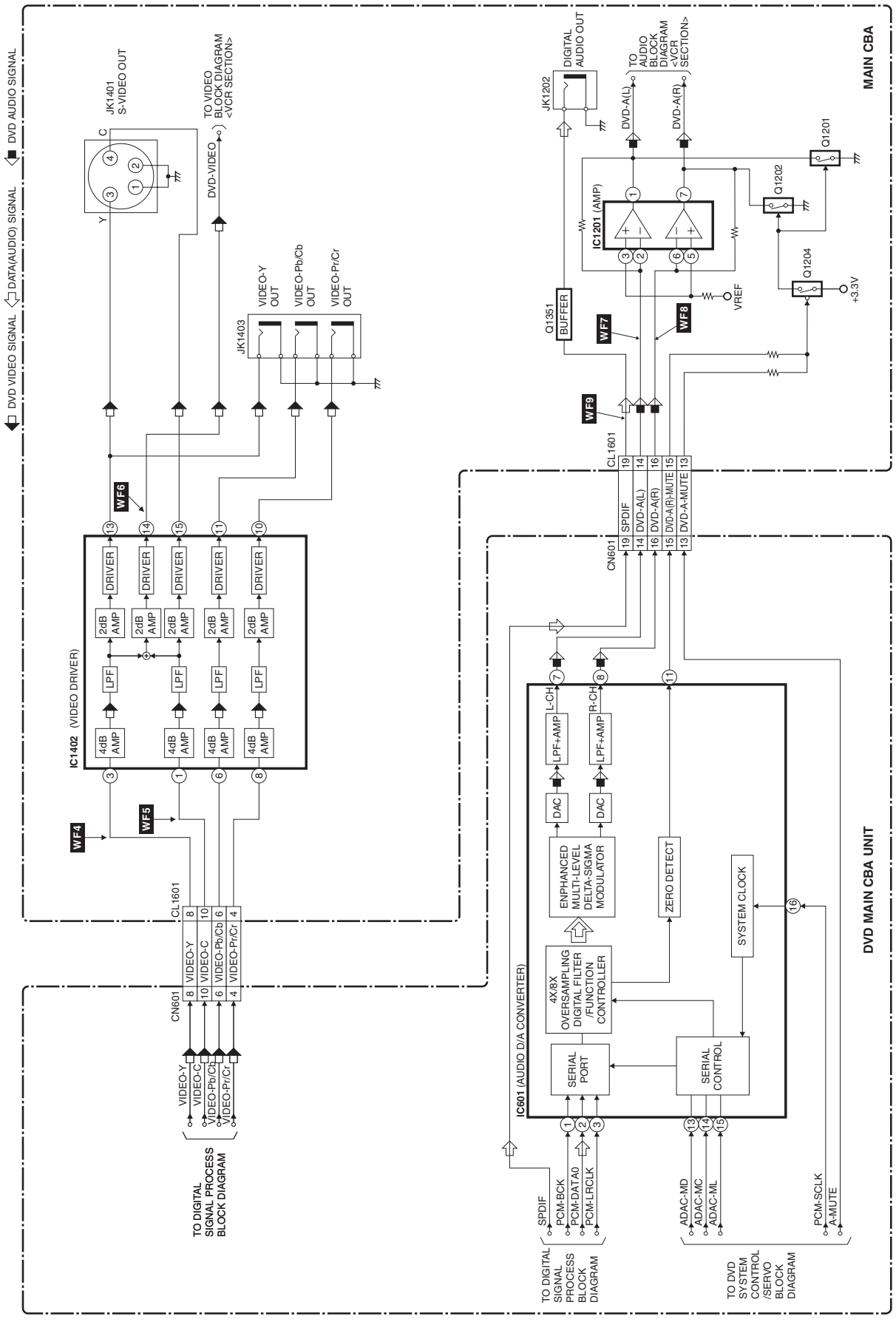
DVD System Control / Servo Block Diagram



Digital Signal Process Block Diagram



DVD Video / Audio Block Diagram



FUNCTION INDICATOR SYMBOLS

Note:

The following symbols will appear on the indicator panel to indicate the current mode or operation of the VCR. On-screen modes will also be momentarily displayed on the tv screen when you press the operation buttons.

Led Mode	Indicator Active
When reel and capstan mechanism is not functioning correctly	"EJECT ⏏ R" is displayed on a TV screen. (Refer to Fig. 1.)
When tape loading mechanism is not functioning correctly	"EJECT ⏏ T" is displayed on a TV screen. (Refer to Fig. 2.)
When cassette loading mechanism is not functioning correctly	"EJECT ⏏ C" is displayed on a TV screen. (Refer to Fig. 3.)
When the drum is not working properly	"EJECT ⏏ D" is displayed on a TV screen. (Refer to Fig. 4.)

TV screen

Note:

OSD for mechanical error will be displayed for 5 sec. after the mechanical error occurs.

When reel and capstan mechanism is not functioning correctly

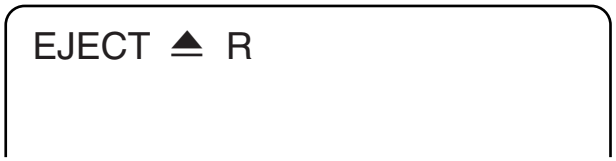


Fig. 1

When tape loading mechanism is not functioning correctly

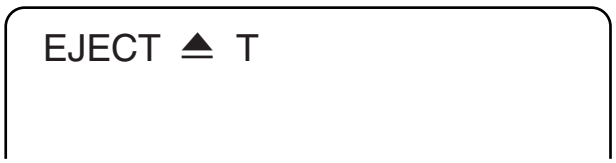


Fig. 2

When cassette loading mechanism is not functioning correctly

Fig. 3

When the drum is not working properly

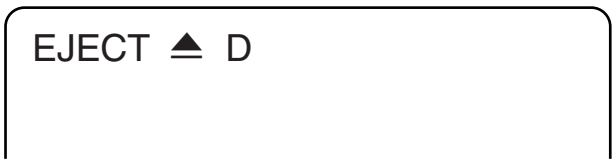


Fig. 4

SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

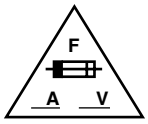
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

This symbol means fast operating fuse.
Ce symbole reprèsente un fusible à fusion rapide.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

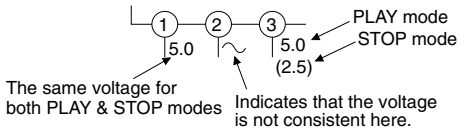
(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.

(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

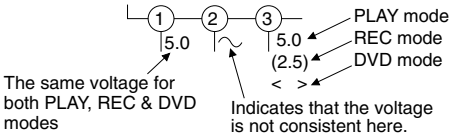
4. Mode: SP/REC

5. Voltage indications for PLAY and REC modes on the schematics are as shown below:

< DVD Section >



< VCR Section >



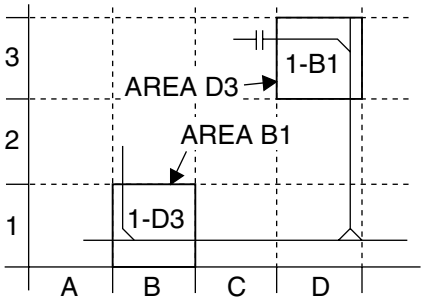
Unit: Volts

6. How to read converged lines

1-D3
Distinction Area
Line Number
(1 to 3 digits)

Examples:

1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



7. Test Point Information

: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

Main 1/8 Schematic Diagram < VCR Section >

REC VIDEO SIGNAL
REC AUDIO SIGNAL
PB VIDEO SIGNAL
PB AUDIO SIGNAL

SYSCON/TIMER/SERVO BLOCK

MAIN 1/8

Ref No.	Position
IC	
IC501	C-3
TRANSISTORS	
Q501	D-1
Q506	A-2
CONNECTORS	
CN501	A-4
CN502	F-4
CN504	A-4
VARIABLE RESISTOR	
VR501	B-4
TEST POINTS	
TP505	B-2
TP513	B-4

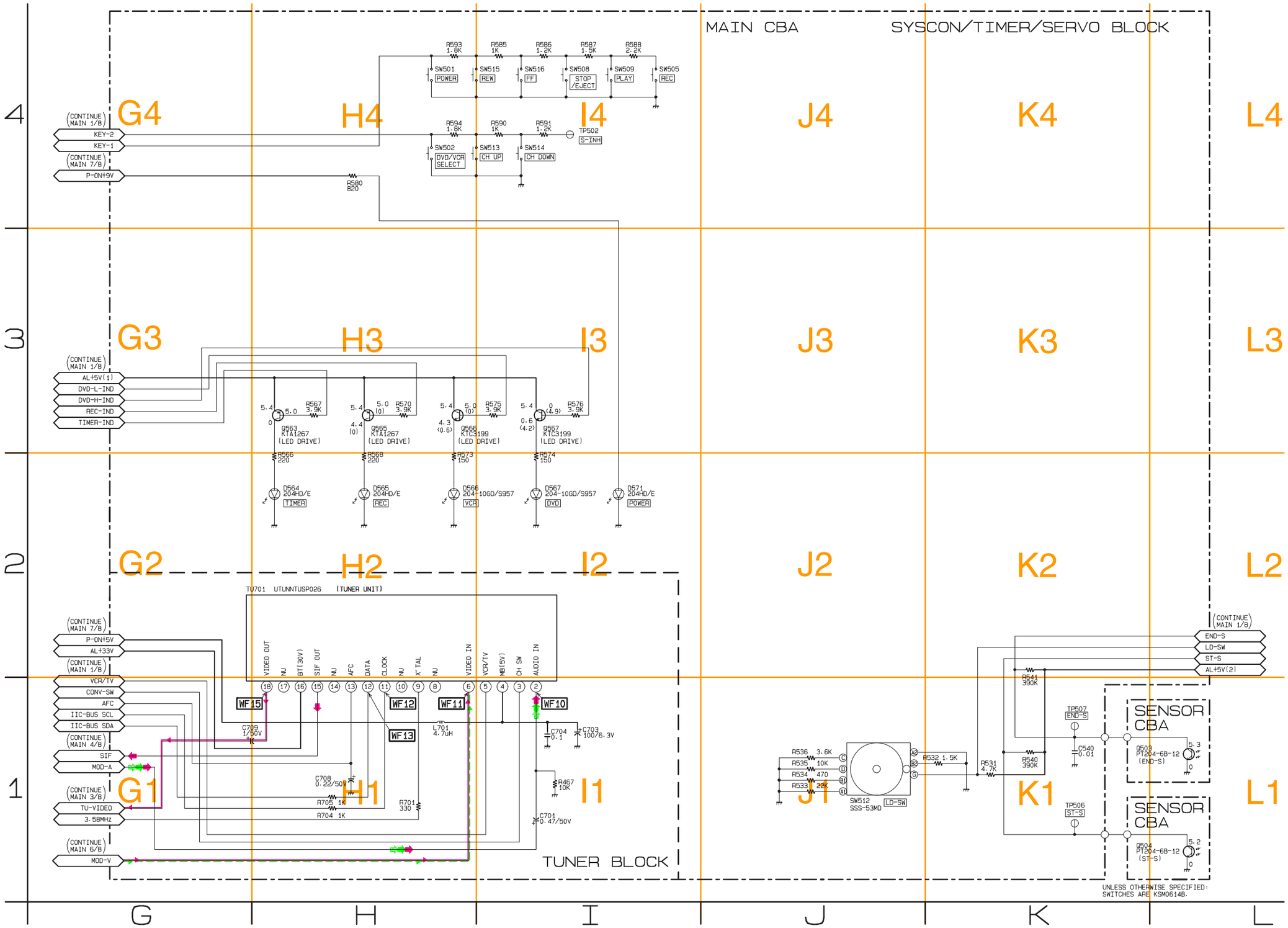
MAIN CBA

Main 2/8 & Sensor Schematic Diagram < VCR Section >

REC VIDEO SIGNAL
REC AUDIO SIGNAL
DVD VIDEO + PB VIDEO SIGANL
PB AUDIO SIGNAL
DVD AUDIO SIGNAL

MAIN 2/8

Ref No.	Position
TRANSISTORS	
Q503	L-1
Q504	L-1
Q563	H-3
Q565	H-3
Q566	H-3
Q567	I-3
TEST POINTS	
TP502	I-4
TP506	K-1
TP507	K-1

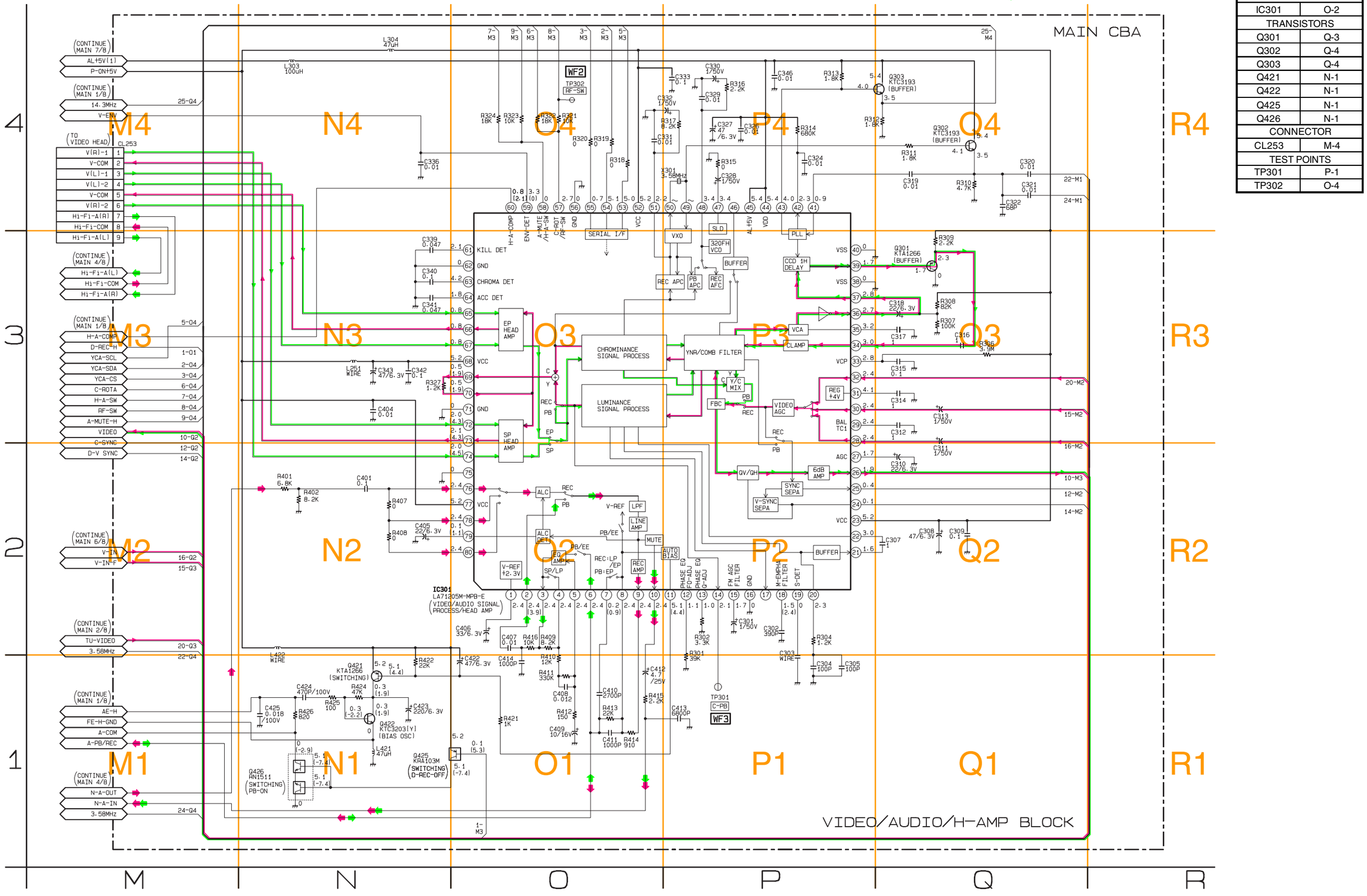


Main 3/8 Schematic Diagram < VCR Section >

REC VIDEO SIGNAL
REC AUDIO SIGNAL
PB VIDEO SIGNAL
DVD VIDEO + PB VIDEO SIGNAL
PB AUDIO SIGNAL

MAIN 3/8

Ref No.	Position
IC	
IC301	O-2
TRANSISTORS	
Q301	Q-3
Q302	Q-4
Q303	Q-4
Q421	N-1
Q422	N-1
Q425	N-1
Q426	N-1
CONNECTOR	
CL253	M-4
TEST POINTS	
TP301	P-1
TP302	O-4

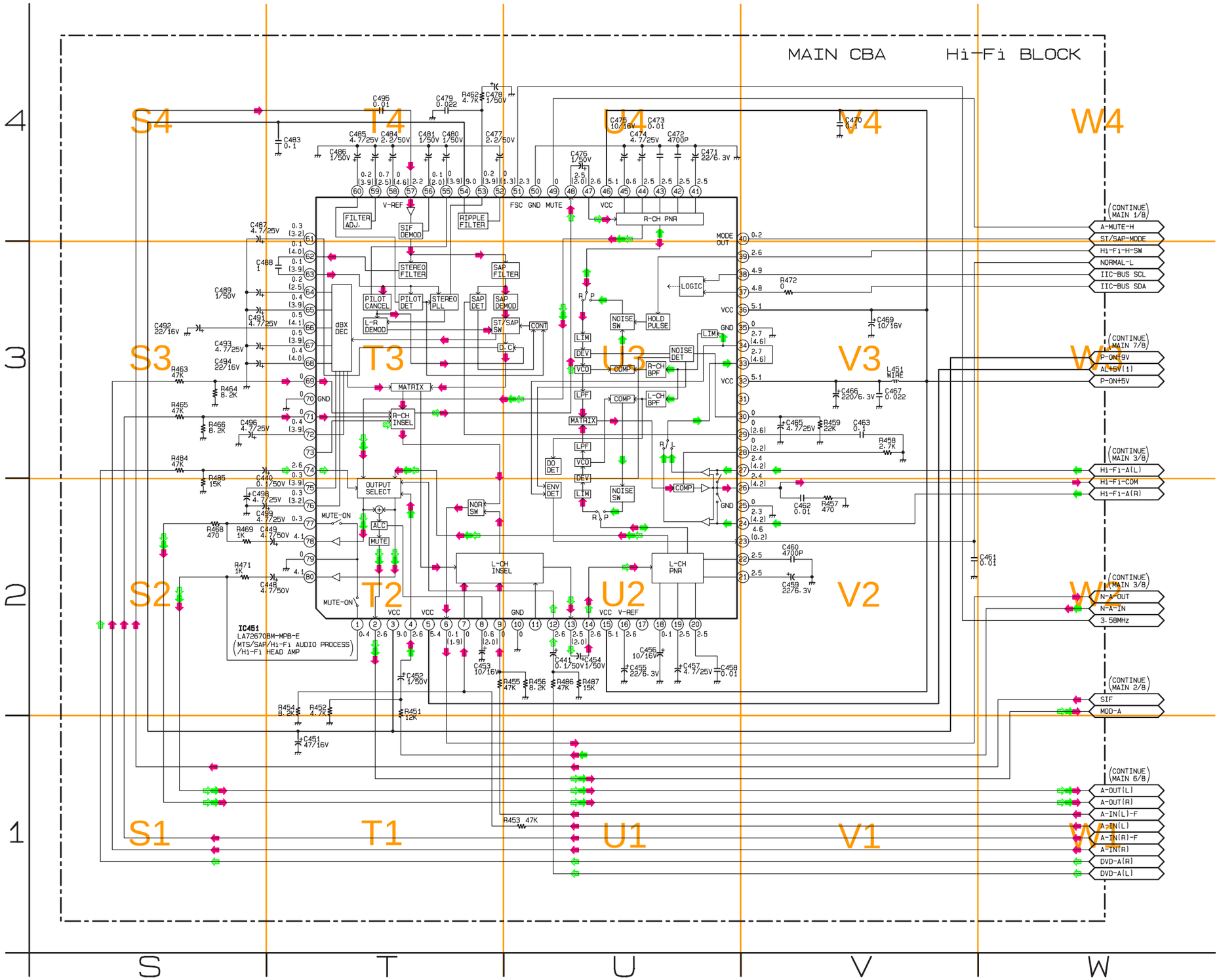


Main 4/8 Schematic Diagram < VCR Section >

REC Audio Signal

PB Audio Signal

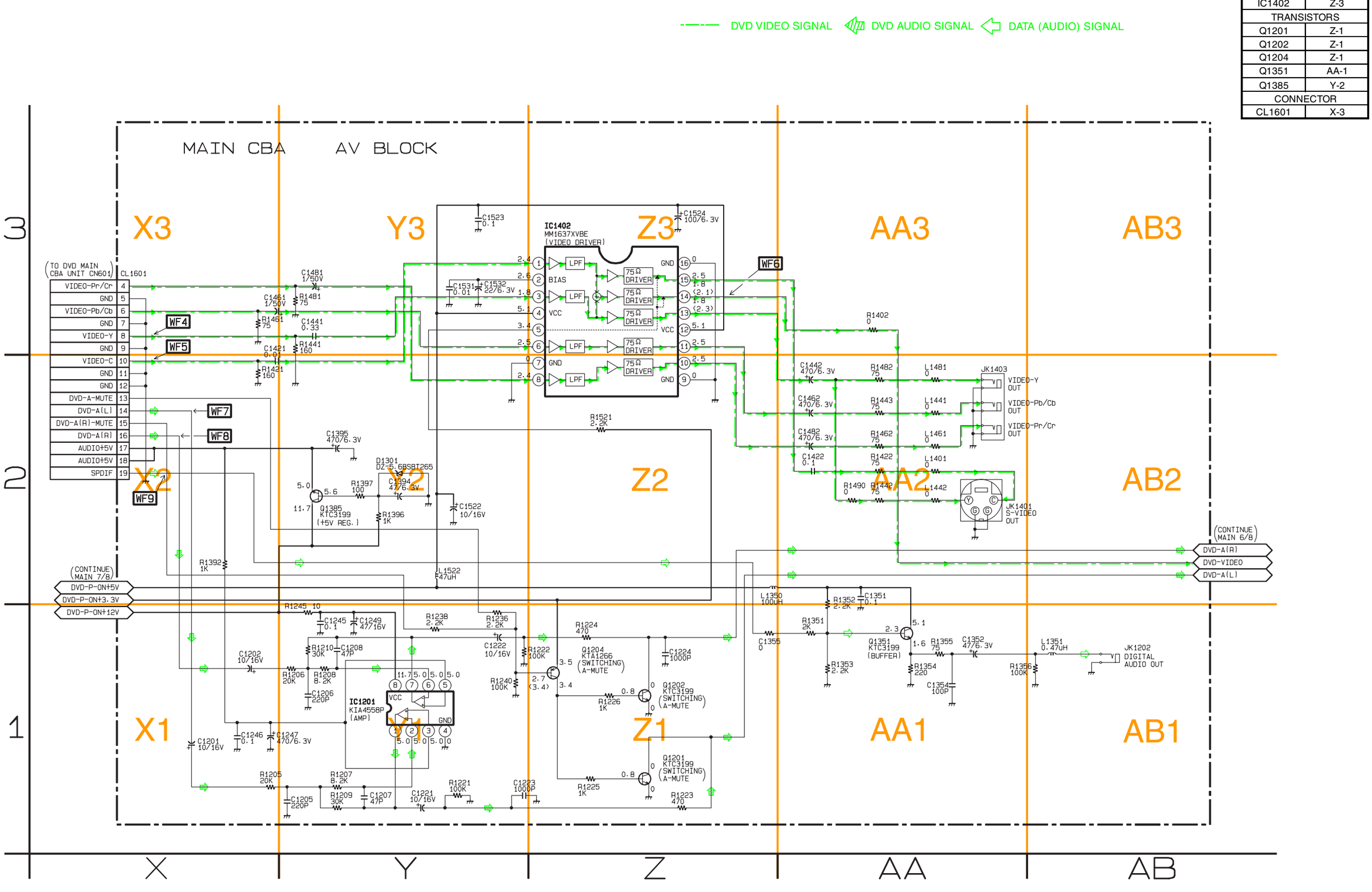
DVD AUDIO SIGNAL



Main 5/8 Schematic Diagram < VCR Section >

MAIN 5/8

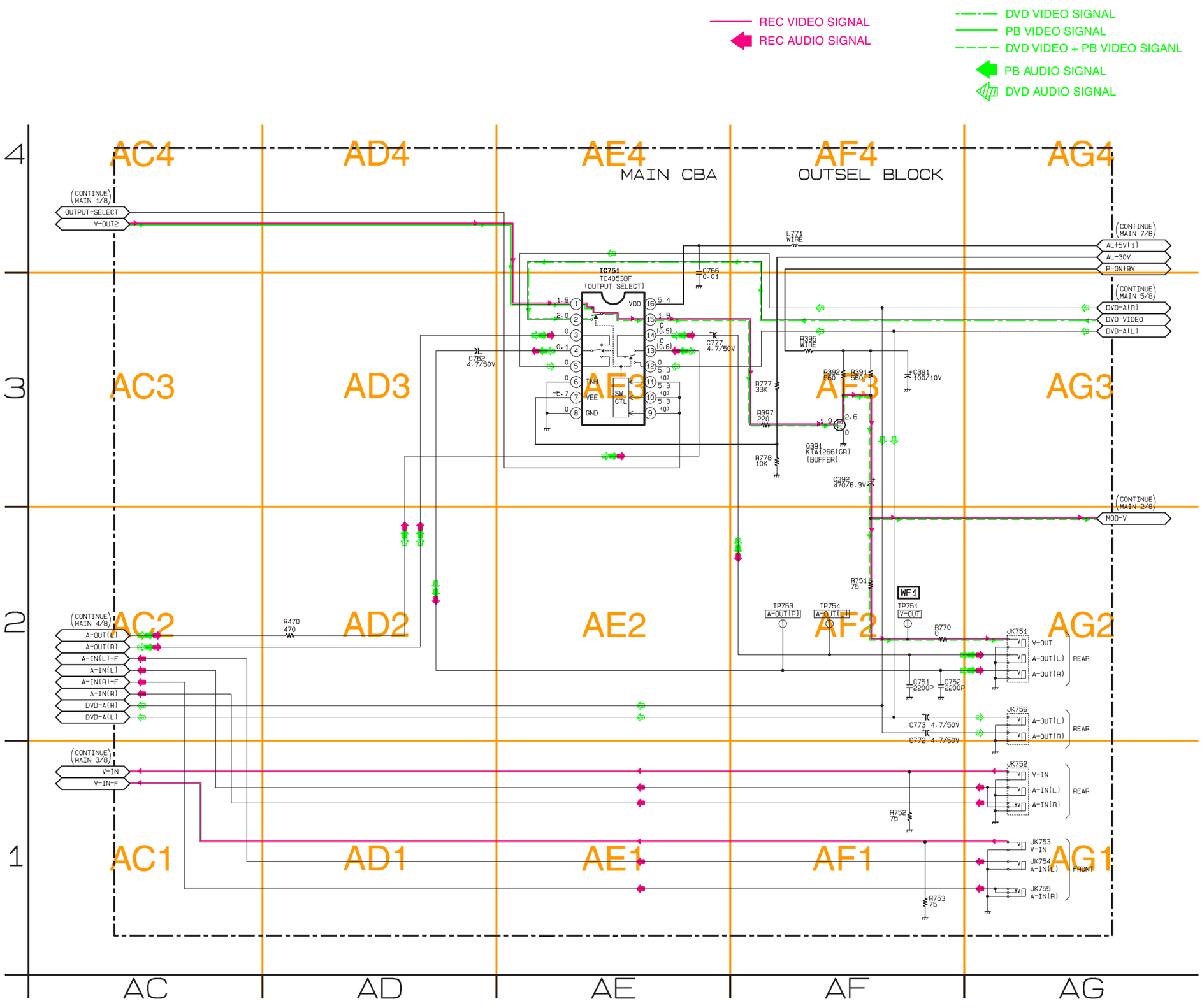
Ref No.	Position
ICS	
IC1201	Y-1
IC1402	Z-3
TRANSISTORS	
Q1201	Z-1
Q1202	Z-1
Q1204	Z-1
Q1351	AA-1
Q1385	Y-2
CONNECTOR	
CL1601	X-3



Main 6/8 Schematic Diagram < VCR Section >

MAIN 6/8

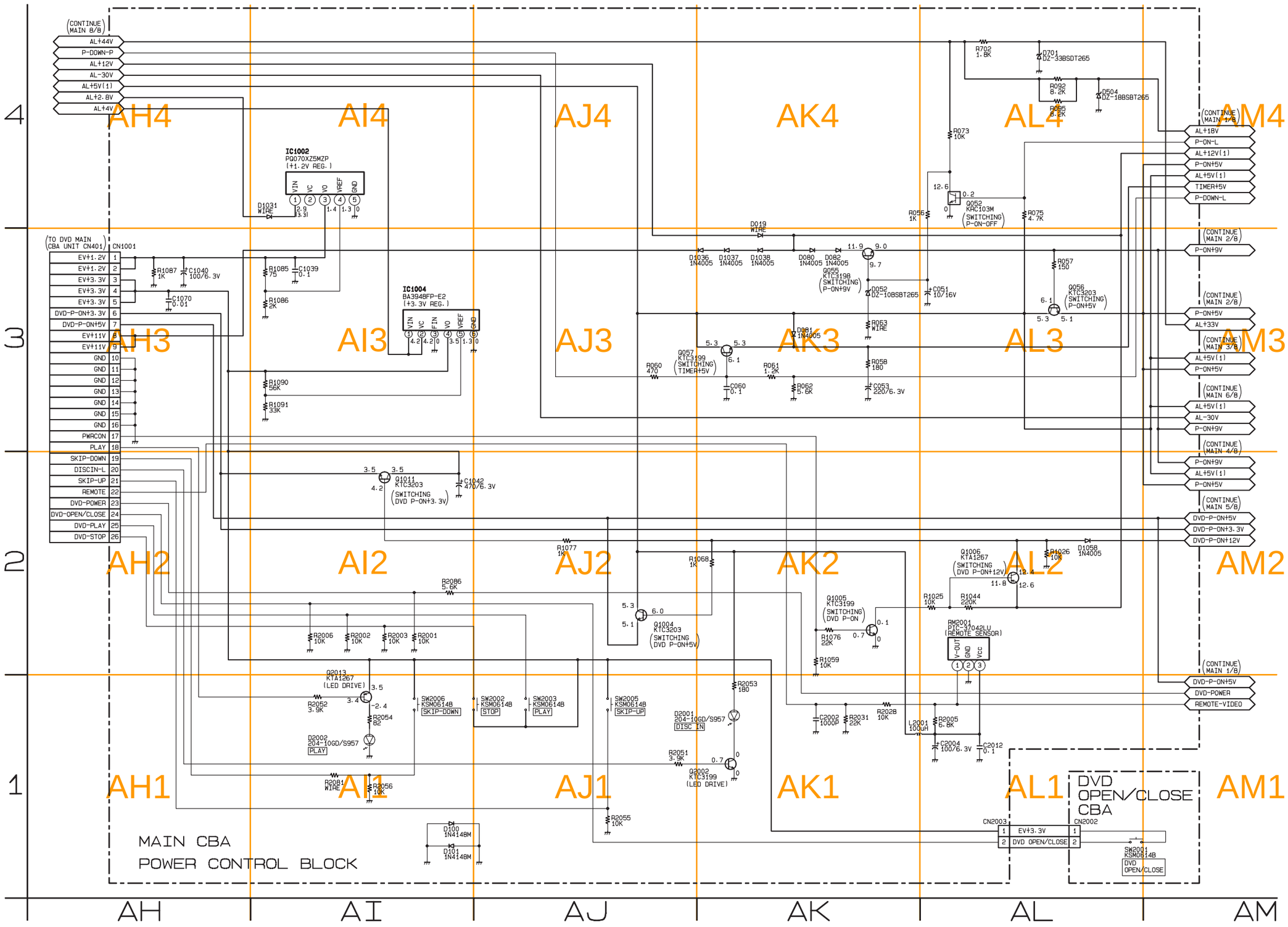
Ref No.	Position
IC	
IC751	AE-3
TRANSISTORS	
Q391	AF-3
TEST POINTS	
TP751	AF-2
TP753	AF-2
TP754	AF-2



Main 7/8 & DVD Open/Close Schematic Diagram < VCR Section >

MAIN 7/8

Ref No.	Position
ICS	
IC1002	AI-4
IC1004	AI-3
TRANSISTORS	
Q052	AL-4
Q055	AK-3
Q056	AL-3
Q057	AK-3
Q1004	AJ-2
Q1005	AK-2
Q1006	AL-2
Q1011	AI-2
Q2002	AK-1
Q2013	AI-1
CONNECTORS	
CN1001	AH-3
CN2003	AL-1



Main 8/8 Schematic Diagram < VCR Section >

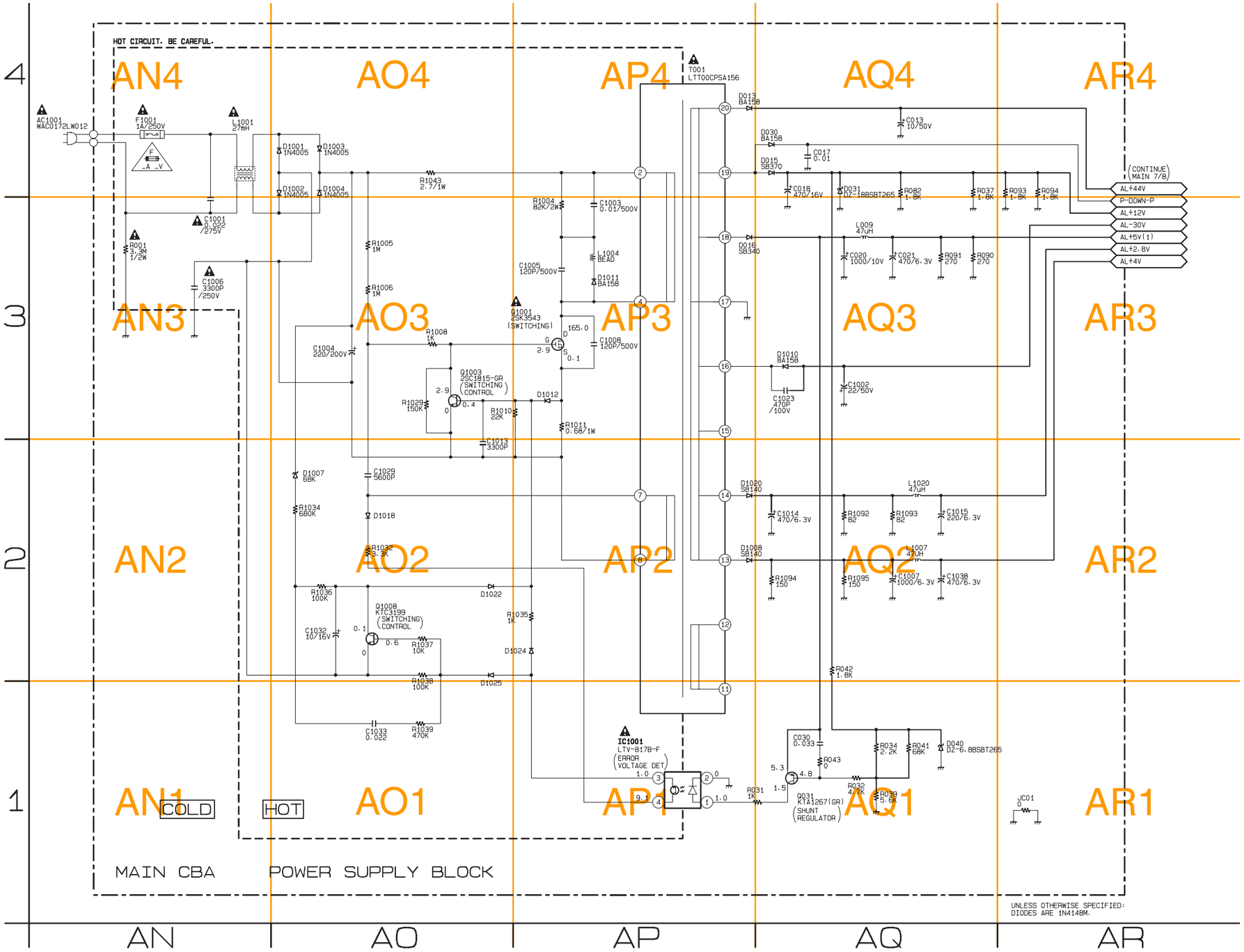
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

MAIN 8/8

Ref No.	Position
ICS	
IC1001	AP-1
TRANSISTORS	
Q031	AQ-1
Q1001	AP-3
Q1003	AO-3
Q1008	AO-2



Main CBA Top View

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

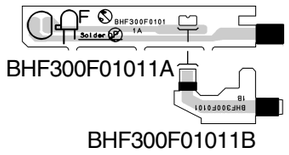
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

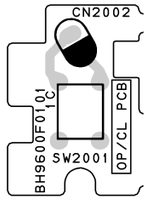
NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

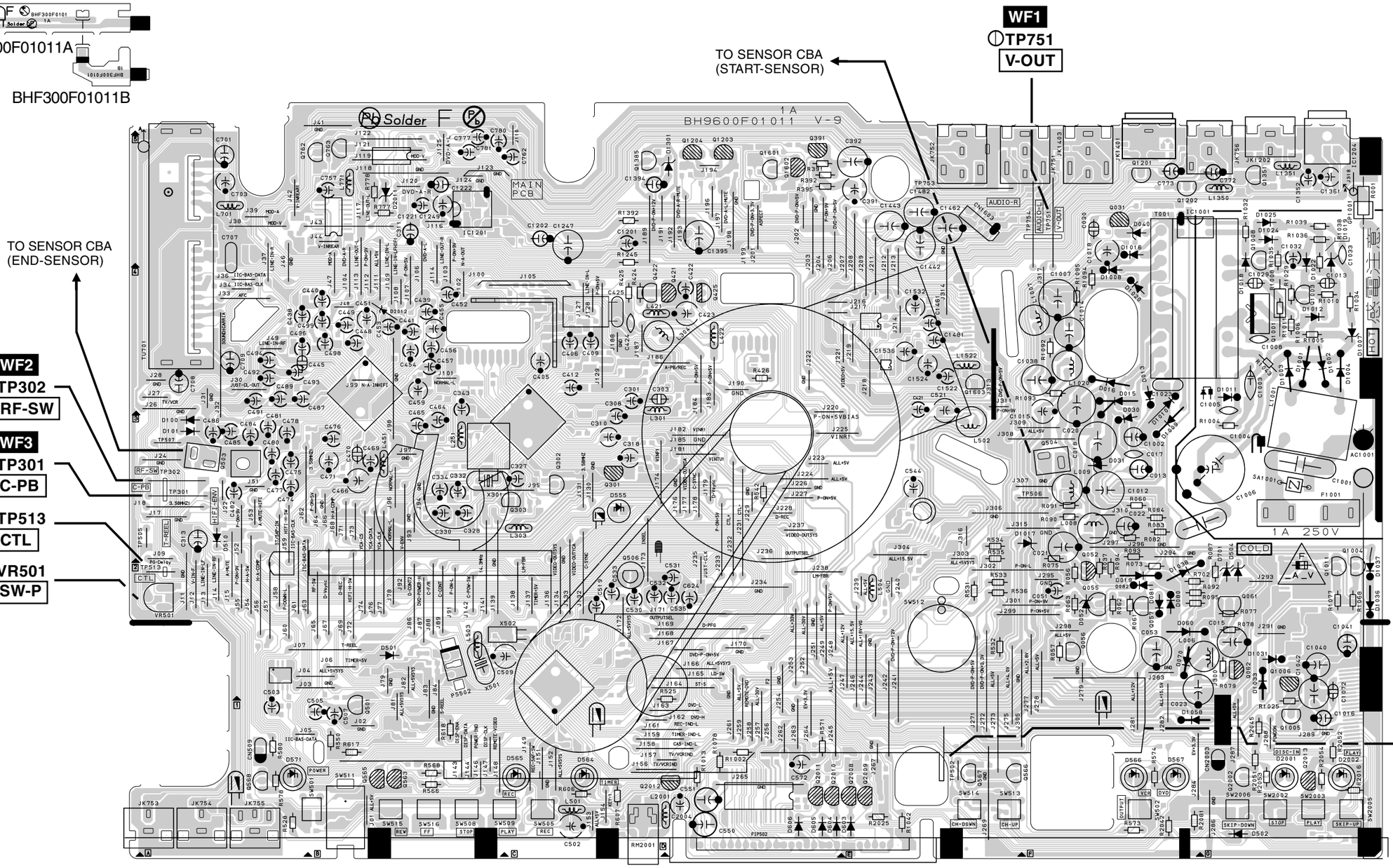
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT , AN ISOLATION TRANSFORMER MUST BE USED. ALSO , IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY , WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT , A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

Sensor CBA Top View



DVD Open/Close CBA Top View





Main CBA Bottom View

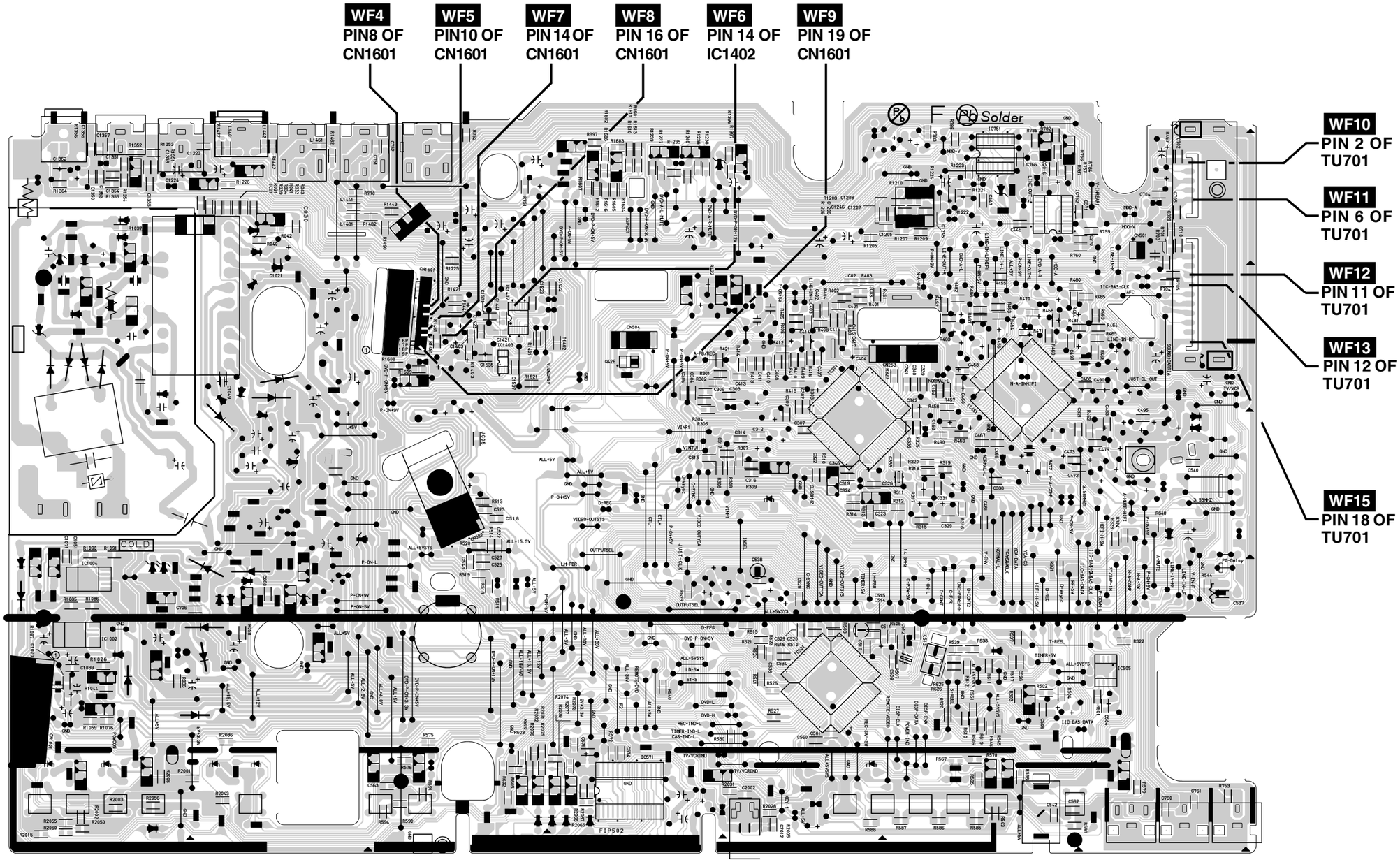
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT , AN ISOLATION TRANSFORMER MUST BE USED. ALSO , IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY , WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT , A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



MAIN CBA

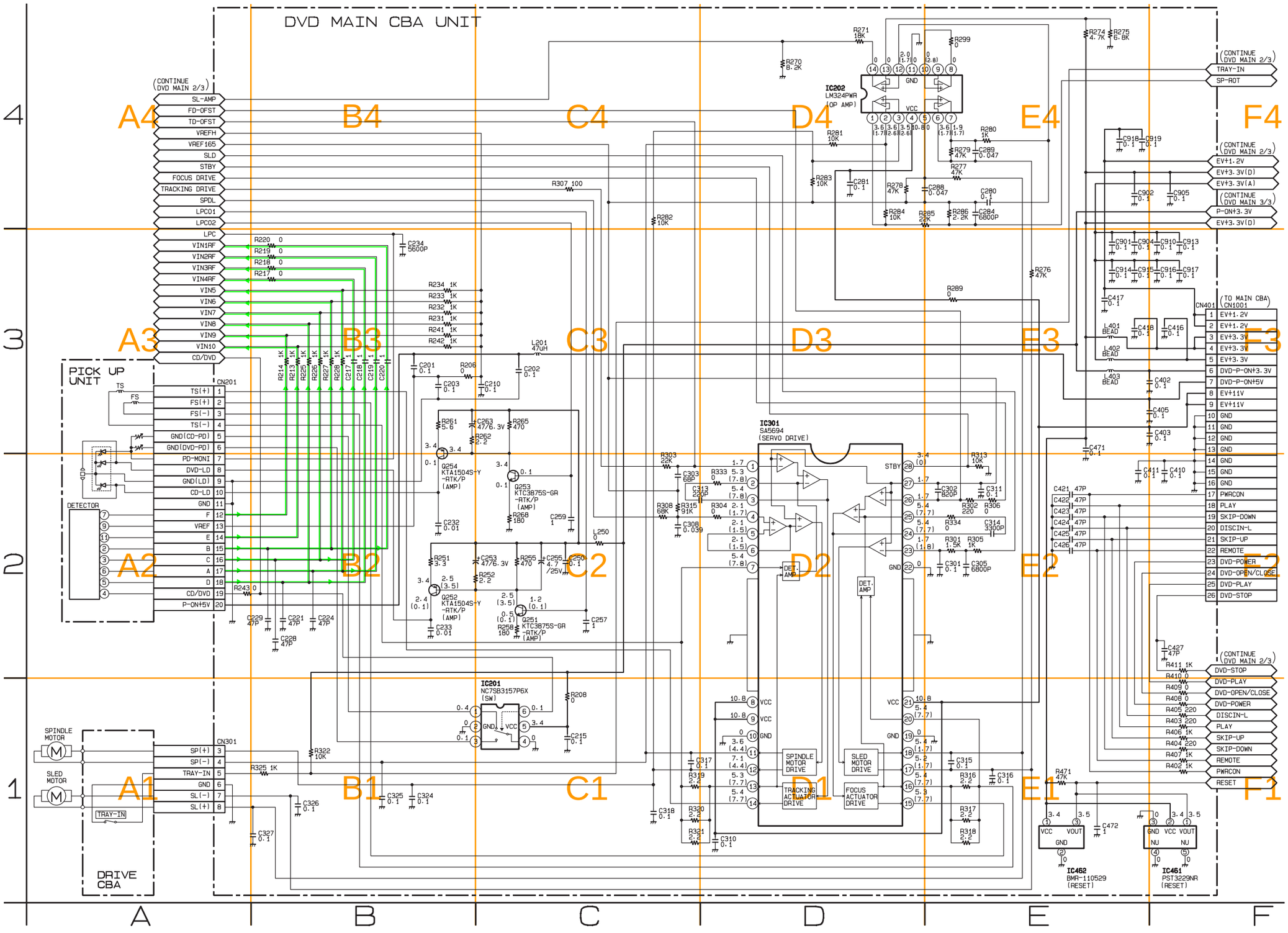
Ref No.	Position
ICS	
IC301	C-4
IC451	B-4
IC501	C-2
IC751	B-5
IC1001	F-5
IC1002	G-2
IC1004	G-2
IC1201	B-5
IC1402	E-4
TRANSISTORS	
Q031	F-5
Q052	F-3
Q055	F-2
Q056	F-2
Q057	F-2
Q301	C-3
Q302	C-3
Q303	C-3
Q391	D-5
Q421	D-4
Q422	C-4
Q425	D-4
Q426	D-4
Q501	B-1
Q506	C-3
Q563	B-1
Q565	B-1
Q566	F-1
Q567	E-1
Q1001	G-4
Q1003	G-4
Q1004	G-3
Q1005	G-1
Q1006	G-2
Q1008	G-5
Q1011	G-2
Q1201	F-5
Q1202	F-5
Q1204	D-5
Q1351	G-5
Q1385	C-5
Q2002	G-1
Q2013	G-1
CONNECTORS	
CL253	B-4
CL501	A-5
CL502	E-3
CL504	D-4
CL1001	G-1
CL1601	E-4
CL2003	G-1
VARIABLE RESISTOR	
VR501	A-2
TEST POINTS	
TP301	A-3
TP302	A-3
TP502	E-1
TP505	A-3
TP506	F-3
TP507	A-3
TP513	A-2
TP751	F-5
TP753	E-5
TP754	F-5

DVD Main 1/3 Schematic Diagram < DVD Section >

DATA(VIDEO+AUDIO) SIGNAL

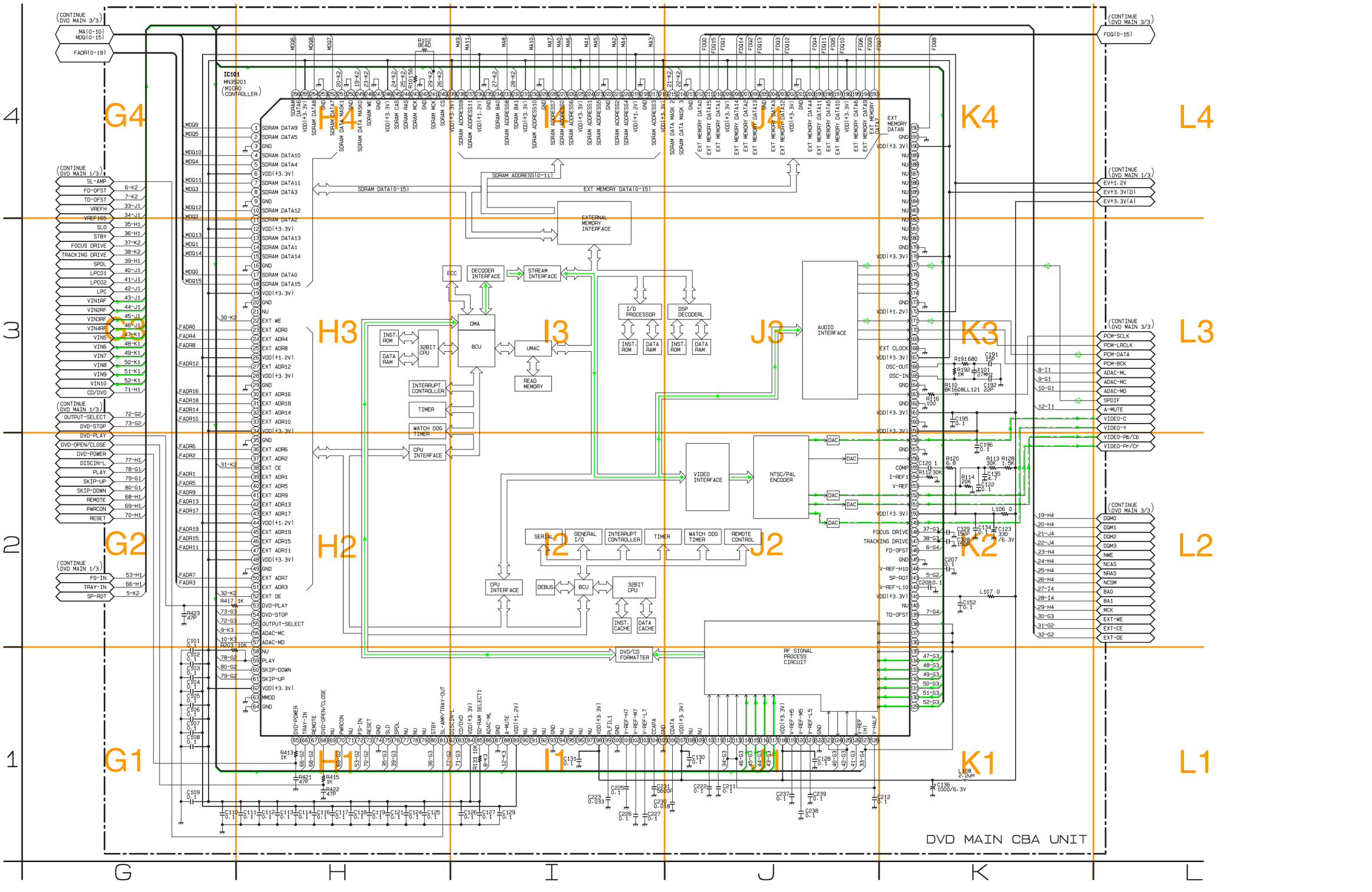
DVD MAIN 1/3

Ref No.	Position
ICS	
IC201	C-1
IC202	D-4
IC301	D-3
IC461	F-1
IC462	E-1
TRANSISTORS	
Q251	C-2
Q252	B-2
Q253	C-2
Q254	B-2
CONNECTORS	
CN201	A-3
CN301	A-1
CN401	F-3



DVD Main 2/3 Schematic Diagram < DVD Section >

DATA(VIDEO+AUDIO) SIGNAL VIDEO SIGNAL DATA(AUDIO) SIGNAL



IC101 VOLTAGE CHART

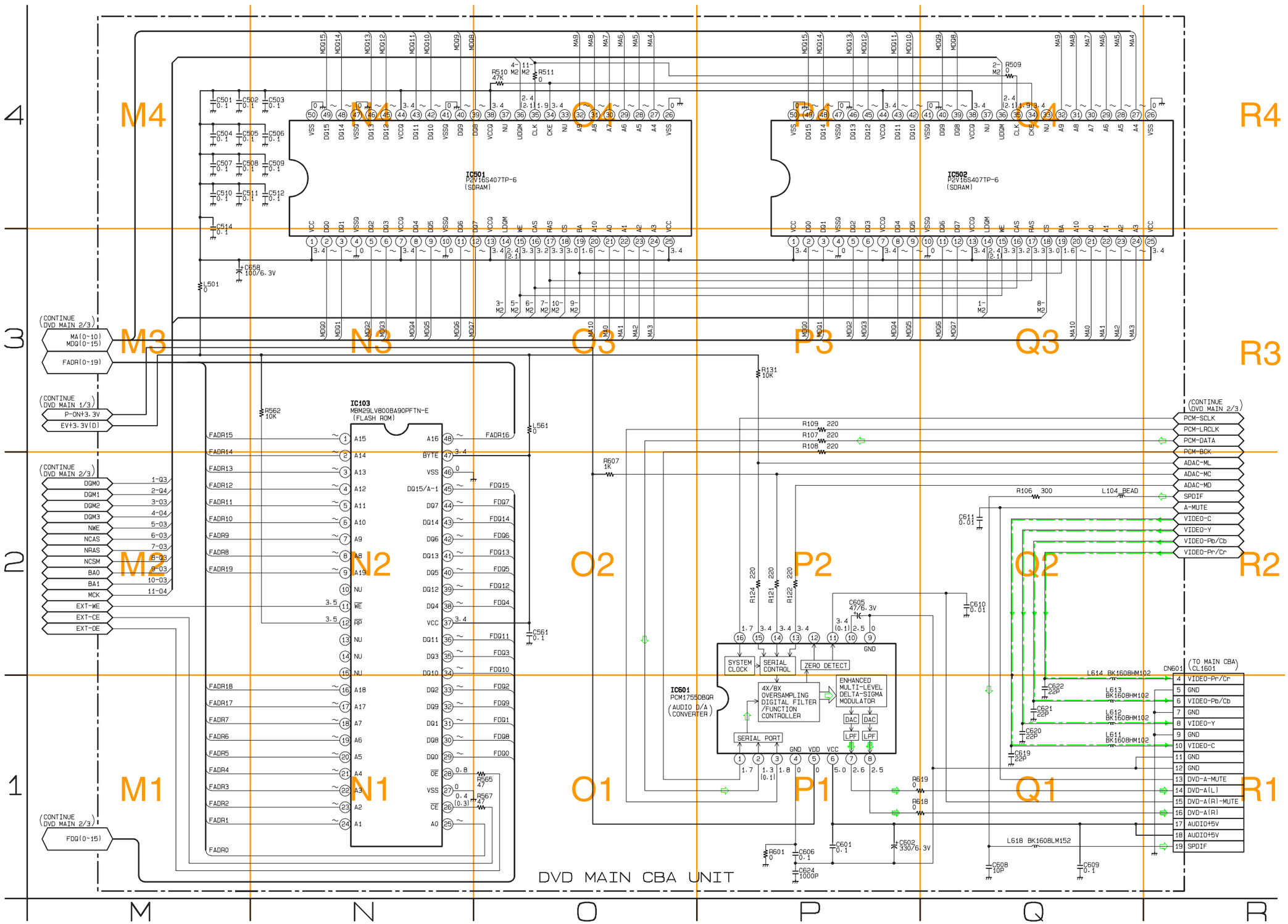
PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	~	~	33	~	~	65	0	0	97	-----	-----	129	2.3	2.3	161	3.4	3.4	193	~	~	225	3.4	3.4
2	~	~	34	3.4	3.4	66	3.4	3.5	98	3.4	3.4	130	2.3	2.3	162	0	0	194	~	~	226	~	~
3	0	0	35	0	0	67	3.2	3.2	99	0.9	0.8	131	2.3	2.3	163	1.8	1.8	195	~	~	227	~	~
4	~	~	36	~	~	68	0	0	100	0	0	132	2.4	2.3	164	0	0	196	3.4	3.4	228	~	~
5	~	~	37	~	~	69	-----	-----	101	2.4	2.4	133	2.4	2.4	165	1.7	1.8	197	~	~	229	0	0
6	3.4	3.4	38	0.4	0.3	70	3.4	3.4	102	2.2	2.2	134	2.4	2.4	166	1.7	1.7	198	~	~	230	~	~
7	~	~	39	~	~	71	-----	-----	103	1.9	1.9	135	2.3	2.3	167	3.4	3.4	199	~	~	231	3.4	3.4
8	~	~	40	~	~	72	1.4	2.7	104	0.4	0.3	136	2.3	2.3	168	0	0	200	~	~	232	1.3	1.6
9	0	0	41	~	~	73	3.4	3.4	105	0	0	137	2.3	2.3	169	1.8	1.8	201	0	0	233	~	~
10	~	~	42	~	~	74	0	0	106	1.7	1.7	138	2.3	2.3	170	1.7	1.7	202	3.4	3.4	234	1.9	2.3
11	~	~	43	~	~	75	1.7	1.8	107	3.4	3.4	139	1.7	1.7	171	1.3	0.1	203	~	~	235	0	0
12	3.4	3.4	44	1.3	1.3	76	2.3	1.8	108	-----	-----	140	-----	-----	172	1.3	1.3	204	~	~	236	1.3	1.3
13	~	~	45	~	~	77	-----	-----	109	-----	-----	141	3.4	3.4	173	0	0	205	0	0	237	~	~
14	~	~	46	~	~	78	-----	-----	110	1.9	1.9	142	1.3	1.3	174	-----	-----	206	~	~	238	~	~
15	~	~	47	~	~	79	-----	-----	111	1.9	1.9	143	2.1	1.7	175	-----	-----	207	~	~	239	3.4	3.4
16	0	0	48	3.4	3.4	80	3.4	0.1	112	1.7	1.7	144	2.2	2.2	176	-----	-----	208	~	~	240	3.4	3.3
17	~	~	49	0	0	81	0.1	0.1	113	1.7	1.7	145	0	0	177	1.8	1.7	209	3.4	3.4	241	1.9	1.9
18	~	~	50	~	~	82	2.8	2.8	114	1.7	1.7	146	1.7	1.7	178	3.4	3.5	210	~	~	242	0	0
19	3.4	3.4	51	~	~	83	0.1	0.1	115	1.7	1.7	147	1.8	1.7	179	0	0	211	~	~	243	1.9	1.9
20	0	0	52	0.8	0.8	84	3.4	3.4	116	1.7	1.7	148	1.7	1.7	180	-----	-----	212	~	~	244	3.4	3.3
21	-----	-----	53	0	0	85	0.1	0.1	117	1.7	1.7	149	0.6	0.5	181	-----	-----	213	0	0	245	3.4	3.4
22	3.5	3.5	54	0	0	86	3.6	3.4	118	3.4	3.4	150	3.4	3.4	182	-----	-----	214	2.5	3.0	246	3.4	3.4
23	~	~	55	1.4	1.4	87	0	0	119	2.0	2.0	151	0.5	0.6	183	-----	-----	215	2.5	3.0	247	0	0
24	~	~	56	3.4	3.4	88	3.5	0.1	120	1.7	1.7	152	0.5	0.4	184	-----	-----	216	3.4	3.4	248	3.3	3.4
25	~	~	57	3.5	3.5	89	1.3	1.3	121	1.5	1.5	153	1.4	1.3	185	-----	-----	217	~	~	249	3.2	3
26	1.3	1.3	58	-----	-----	90	-----	-----	122	0	0	154	1.4	1.3	186	-----	-----	218	0	0	250	0	0
27	~	~	59	0.6	3.4	91	-----	-----	123	0.3	0.1	155	2.4	2.4	187	-----	-----	219	1.3	1.3	251	3.2	3.0
28	3.4	3.4	60	0	0	92	-----	-----	124	1.2	0.1	156	3.4	3.4	188	-----	-----	220	~	~	252	~	~
29	0	0	61	0	0	93	0	0	125	0.3	0.1	157	0	0	189	-----	-----	221	~	~	253	0	0
30	~	~	62	3.4	3.4	94	-----	-----	126	0.1	0.1	158	0.9	0.9	190	3.4	3.5	222	0	0	254	~	~
31	~	~	63	0	0	95	-----	-----	127	2.3	2.3	159	3.4	3.4	191	0	0	223	~	~	255	3.4	3.4
32	~	~	64	0	0	96	-----	-----	128	1.7	1.7	160	0	0	192	~	~	224	~	~	256	~	~

DVD Main 3/3 Schematic Diagram < DVD Section >

DVD MAIN 3/3

Ref No.	Position
ICS	
IC103	N-3
IC501	O-4
IC502	Q-4
IC601	P-1
CONNECTOR	
CN601	R-1

VIDEO SIGNAL　DVD AUDIO SIGNAL　DATA(AUDIO) SIGNAL



WAVEFORMS

NOTE:

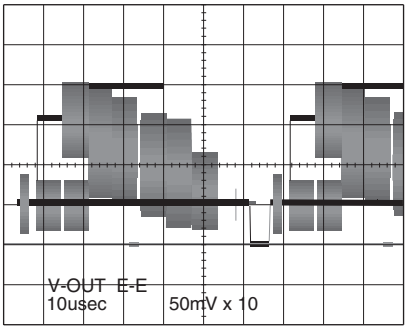
Input

VCR: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)
(WF1~WF3, WF10, WF11, WF15)

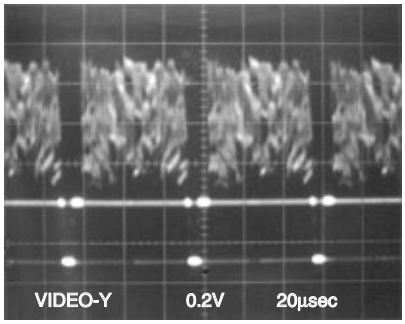
DVD: POWER ON (STOP) MODE
(WF4~WF6)

CD: 1kHz PLAY
(WF7~WF9)

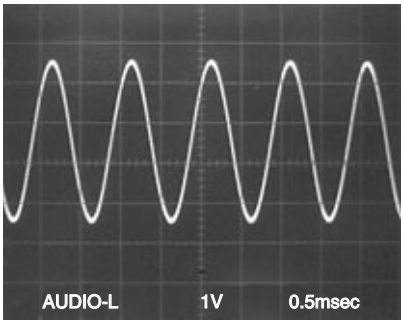
WF 1 (TP751 of Main CBA)



WF4 Pin 8 of CN1601

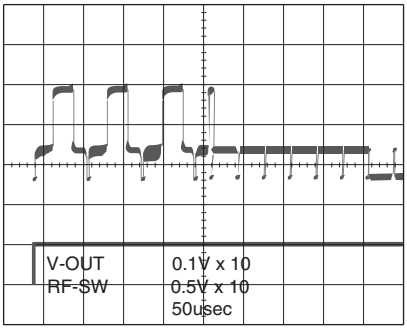


WF7 Pin 14 of CN1601

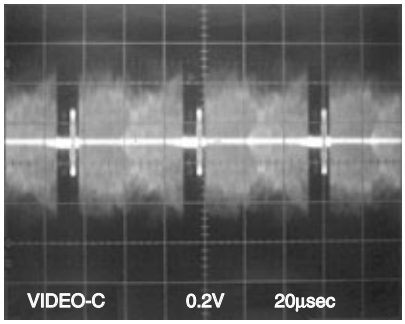


WF1 UPPER (TP751 of Main CBA)

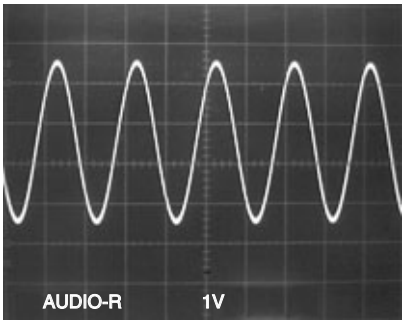
WF2 LOWER (TP302 of Main CBA)



WF5 Pin 10 of CN1601

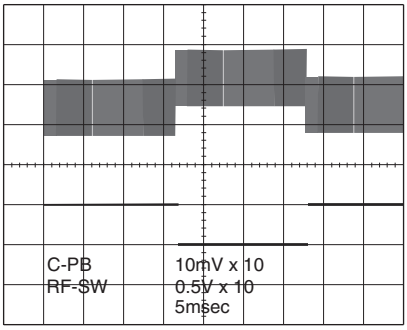


WF8 Pin 16 of CN1601

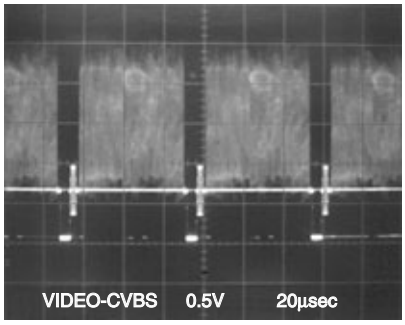


WF3 UPPER (TP301 of Main CBA)

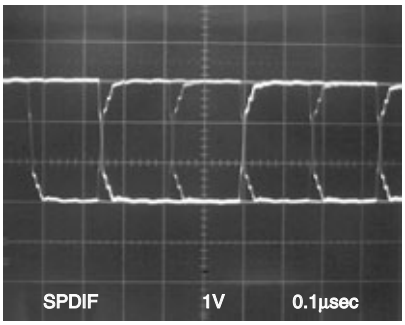
WF2 LOWER (TP302 of Main CBA)



WF6 Pin 14 of IC1402



WF9 Pin 19 of CN1601



NOTE:

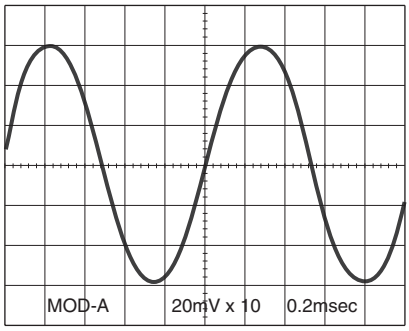
Input

VCR: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)
(WF1~WF3, WF10, WF11, WF15)

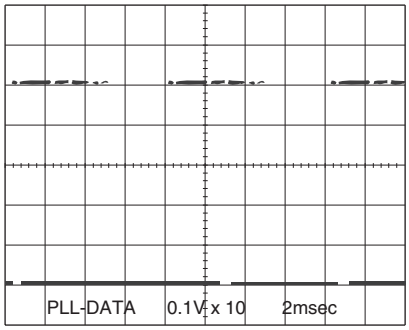
DVD: POWER ON (STOP) MODE
(WF4~WF6)

CD: 1kHz PLAY
(WF7~WF9)

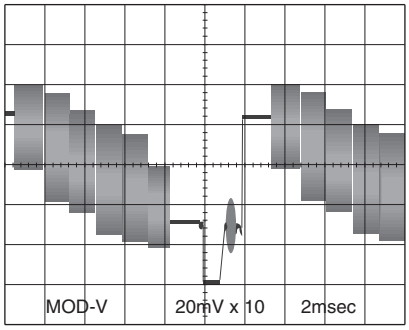
WF10 (Pin 2 of TU701)



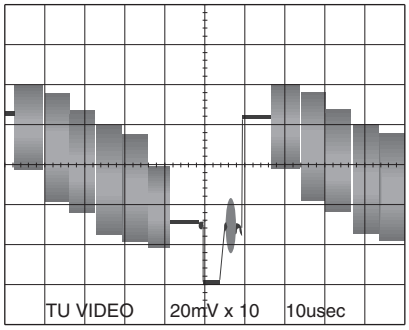
WF13 (Pin 12 of TU701)



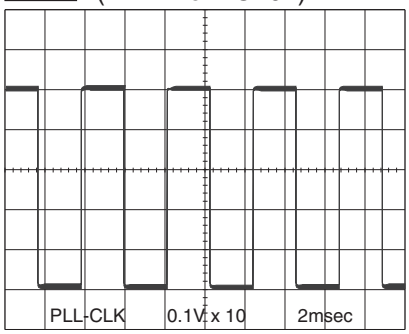
WF11 (Pin 6 of TU701)



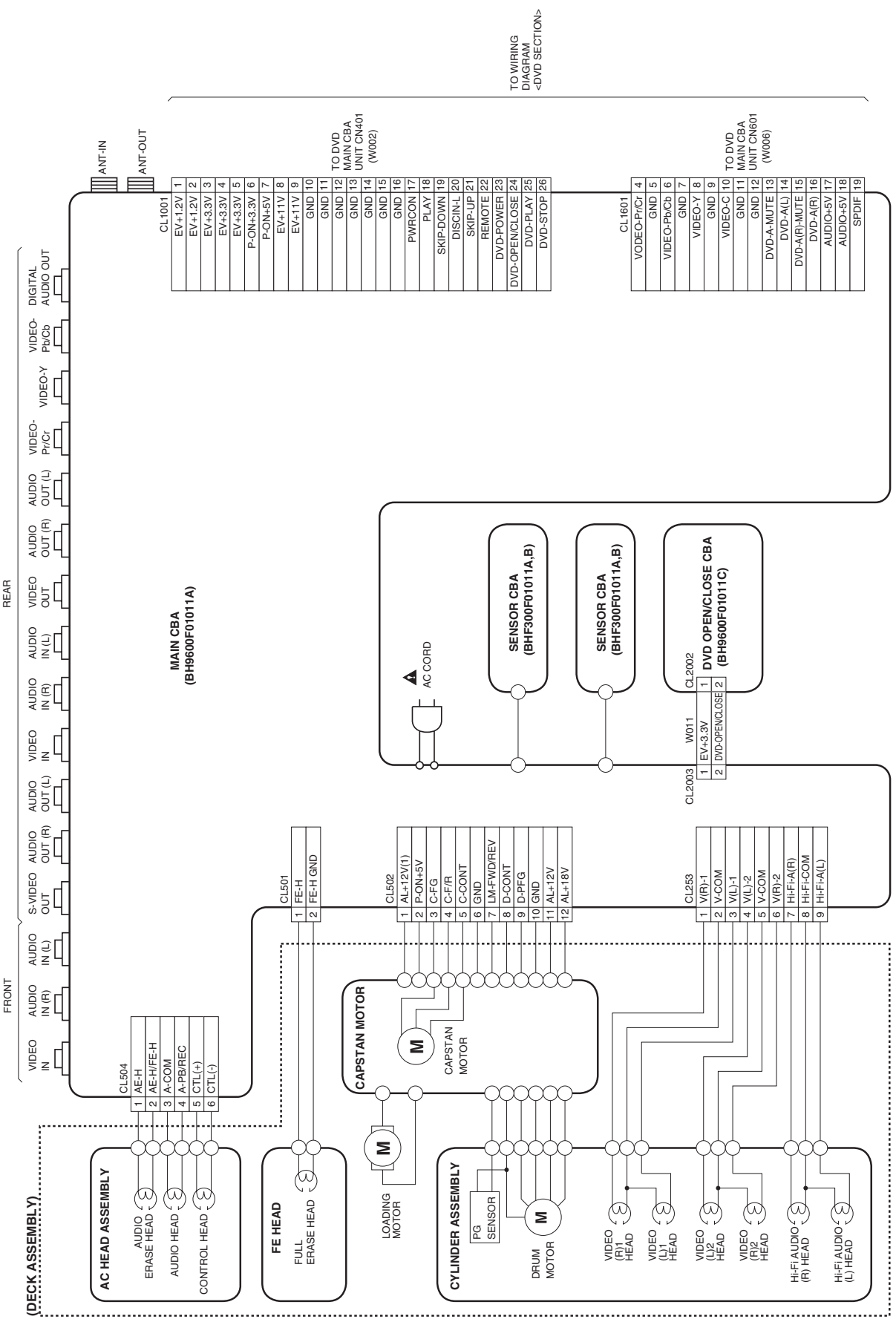
WF15 (Pin 18 of TU701)



WF12 (Pin 11 of TU701)



WIRING DIAGRAM < VCR SECTION >



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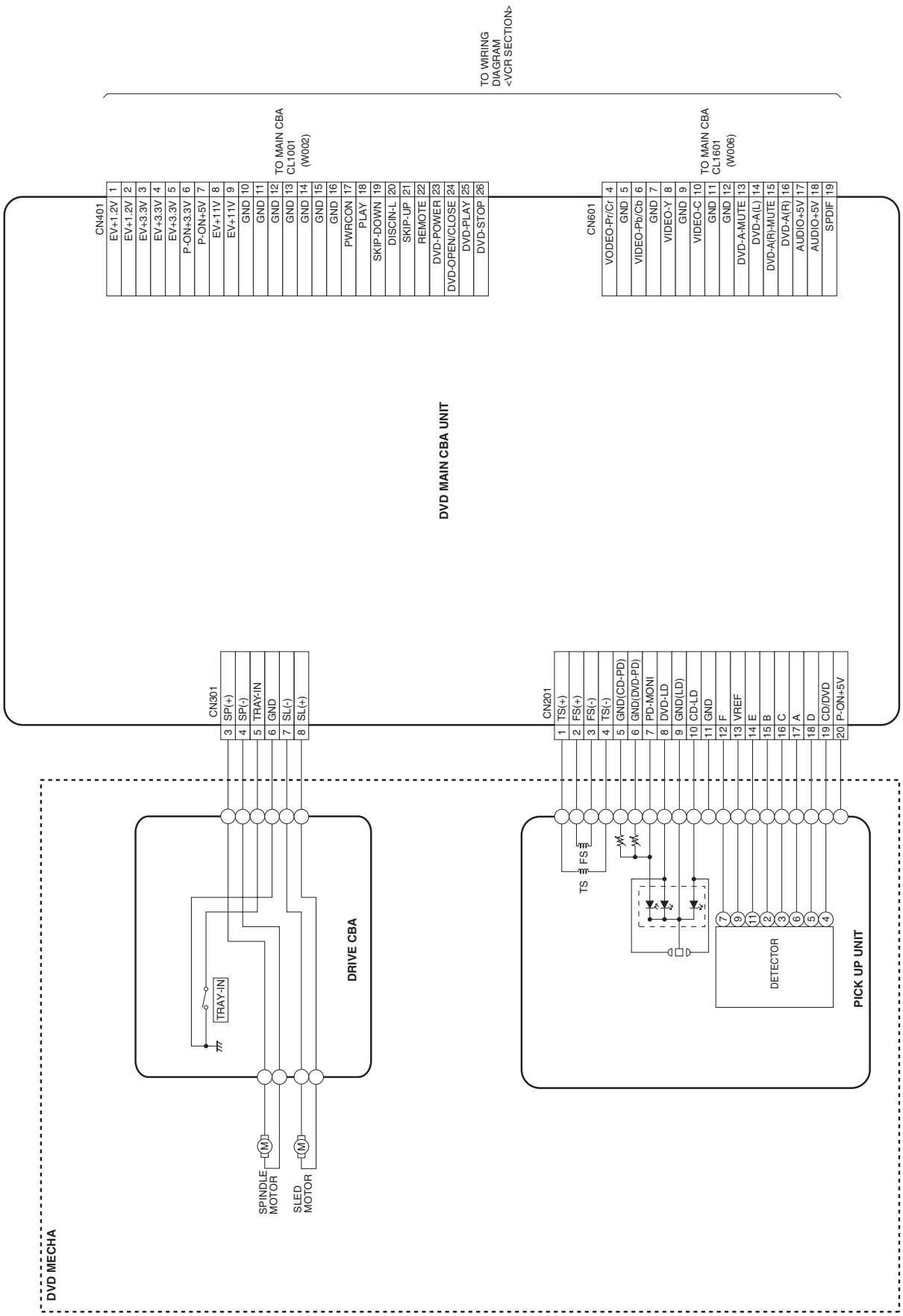


SYSTEM CONTROL TIMING CHARTS

[VCR Section]

Mode SW : LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76V~4.50V (4.12V)	EJ
4.51V~5.00V (5.00V)	CL
0.00V~0.25V (0.00V)	SB
1.06V~1.50V (1.21V)	TL
0.66V~1.05V (0.91V)	FB
1.99V~2.60V (2.17V)	SF
1.51V~1.98V (1.80V)	SM
3.20V~3.75V (3.40V)	AU
0.26V~0.65V (0.44V)	AL
4.51V~5.00V (5.00V)	SS
2.61V~3.19V (2.97V)	RS

Note:

Note:

EJ ⟶ RS: Loading FWD (LM-FWD/REV “H”)
RS ⟶ EJ: Loading REV (LM-FWD/REV “L”)
Stop (A) = Loading
Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop(B)
TL	Stop(B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop(M), (FF / REW)
SM	Stop(M), (FF / REW) ~ Stop(A)
AU	Stop(A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Still/Slow Control
Frame Advance Timing Chart

1) SP Mode

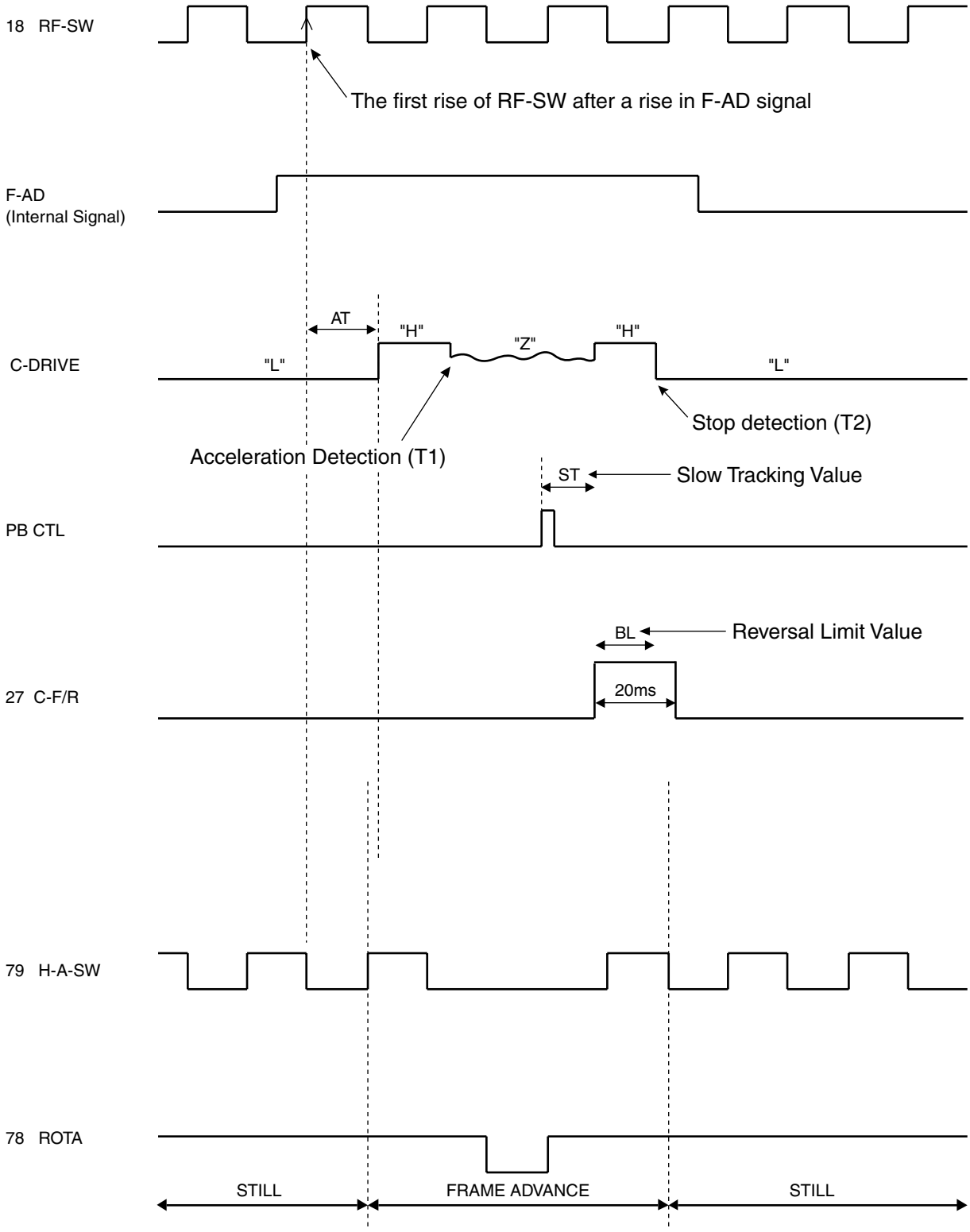


Fig. 1

2) LP/SLP Mode

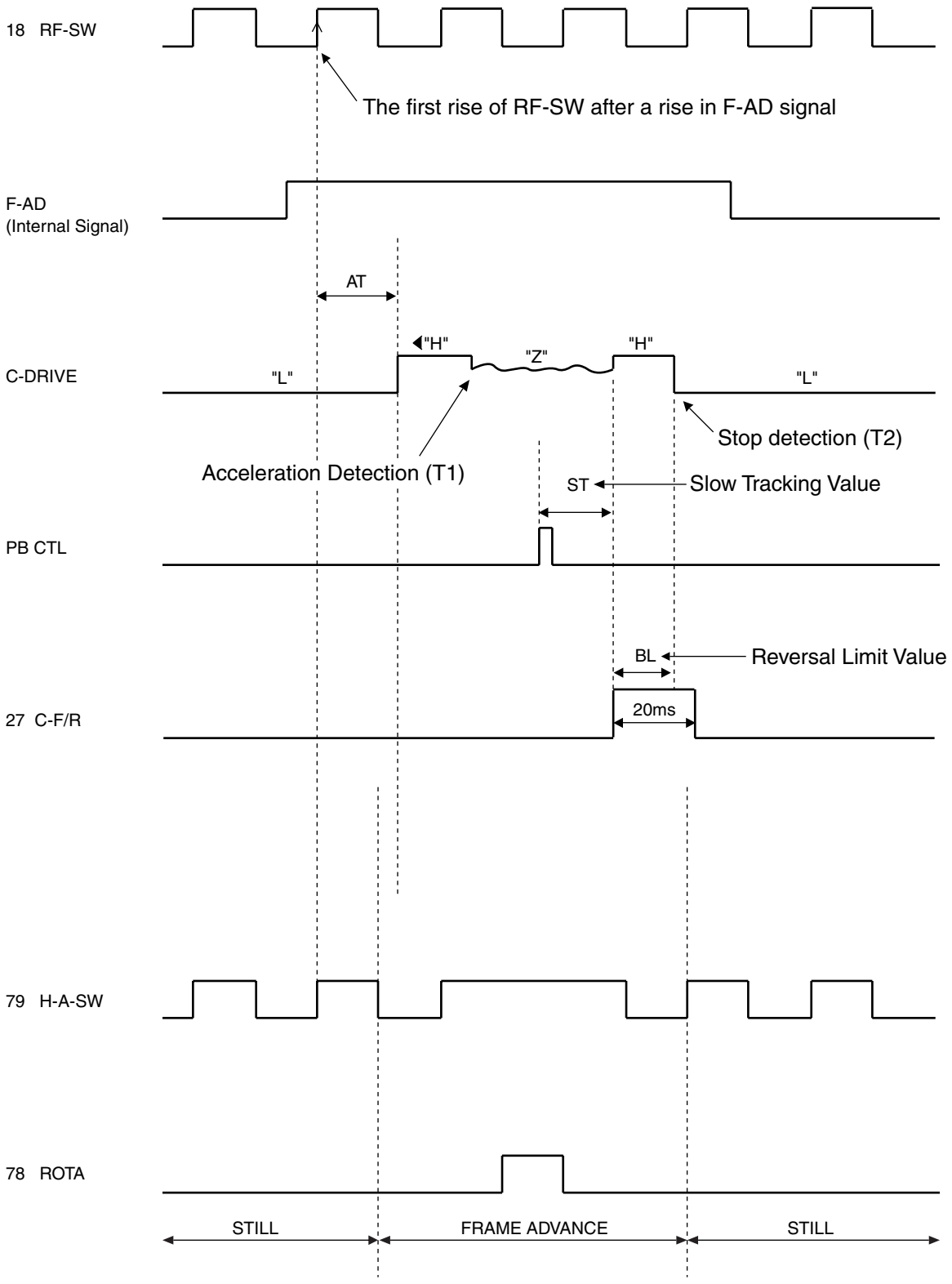


Fig. 2

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)

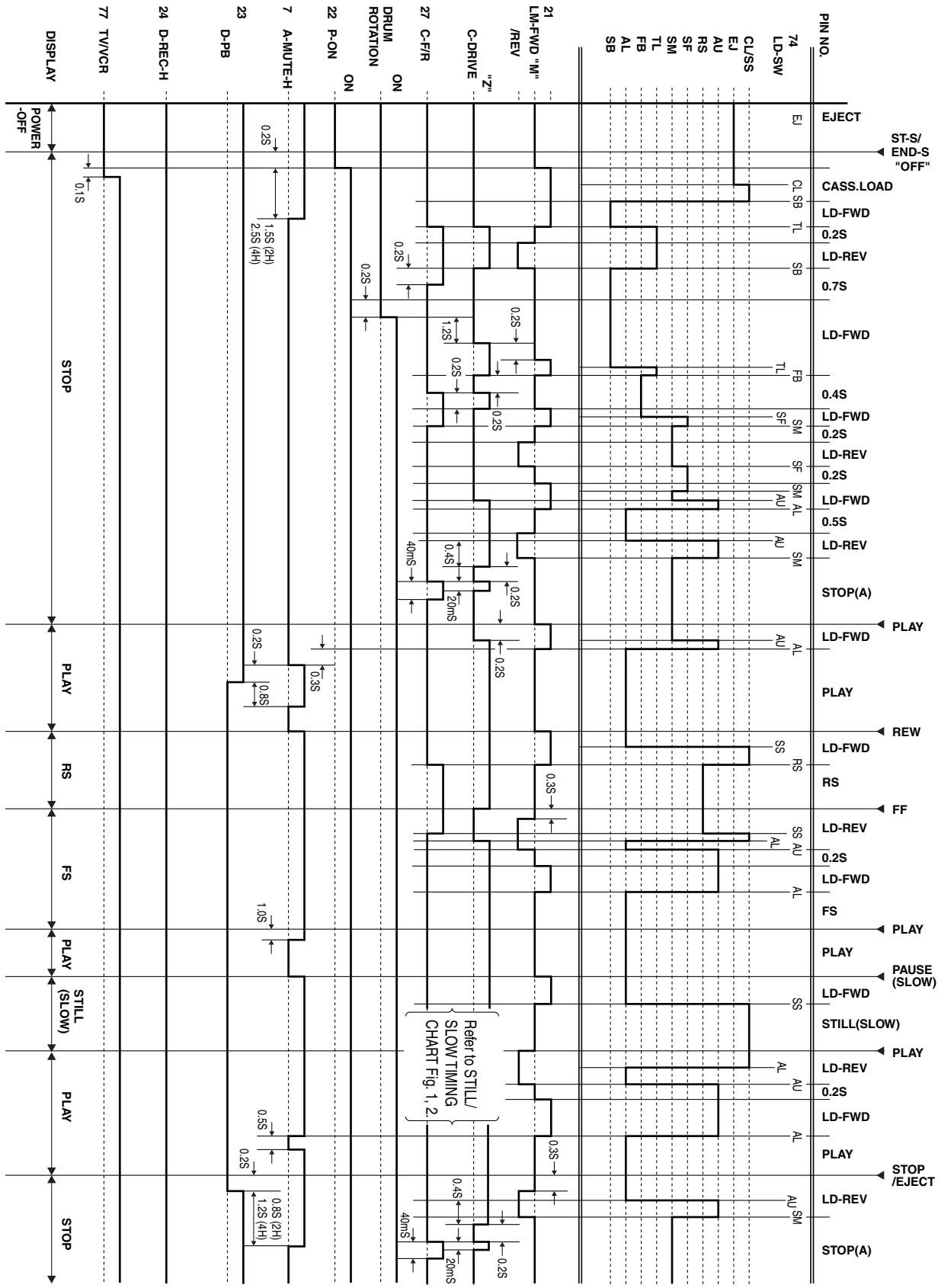


Fig. 3

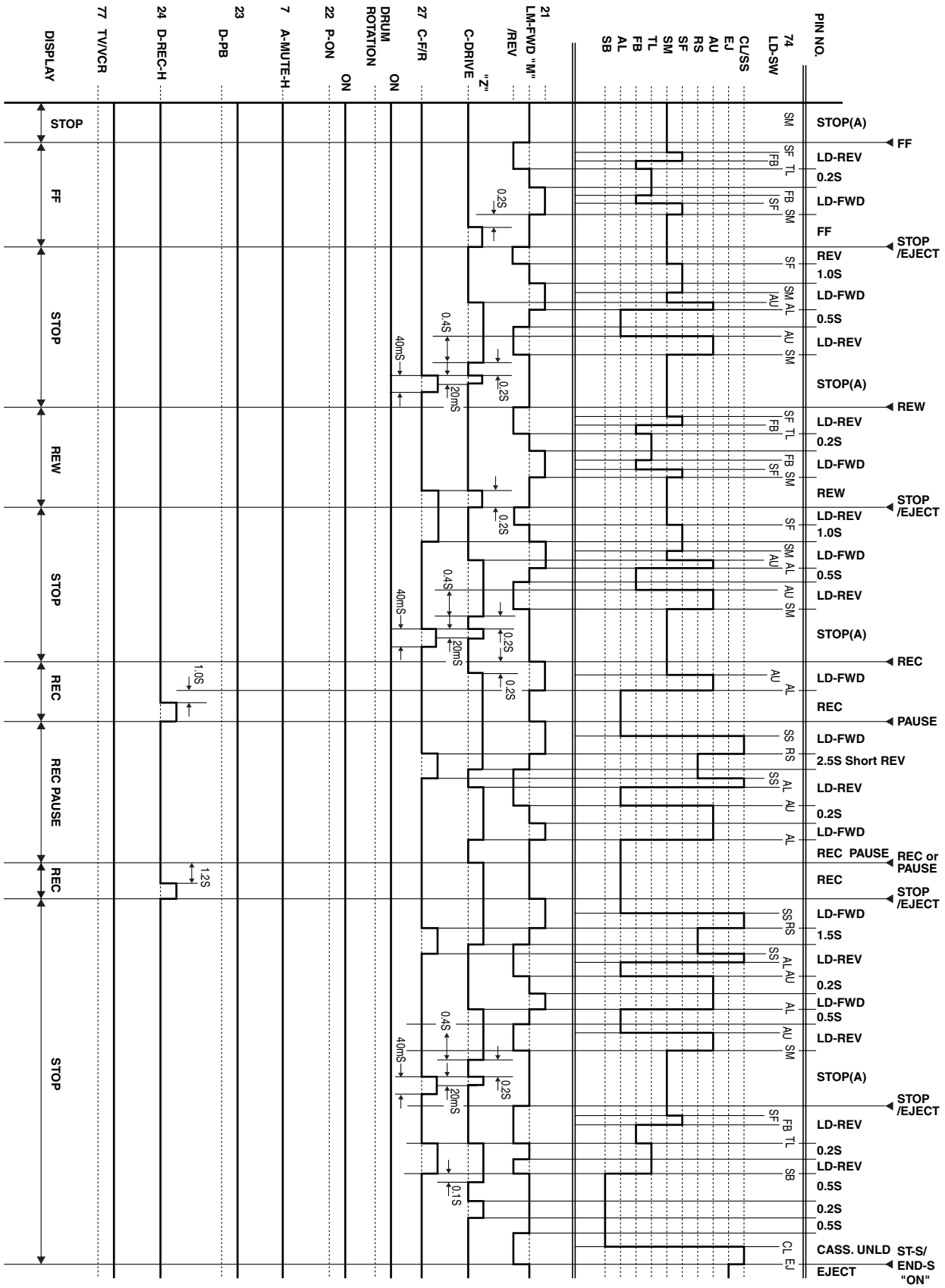
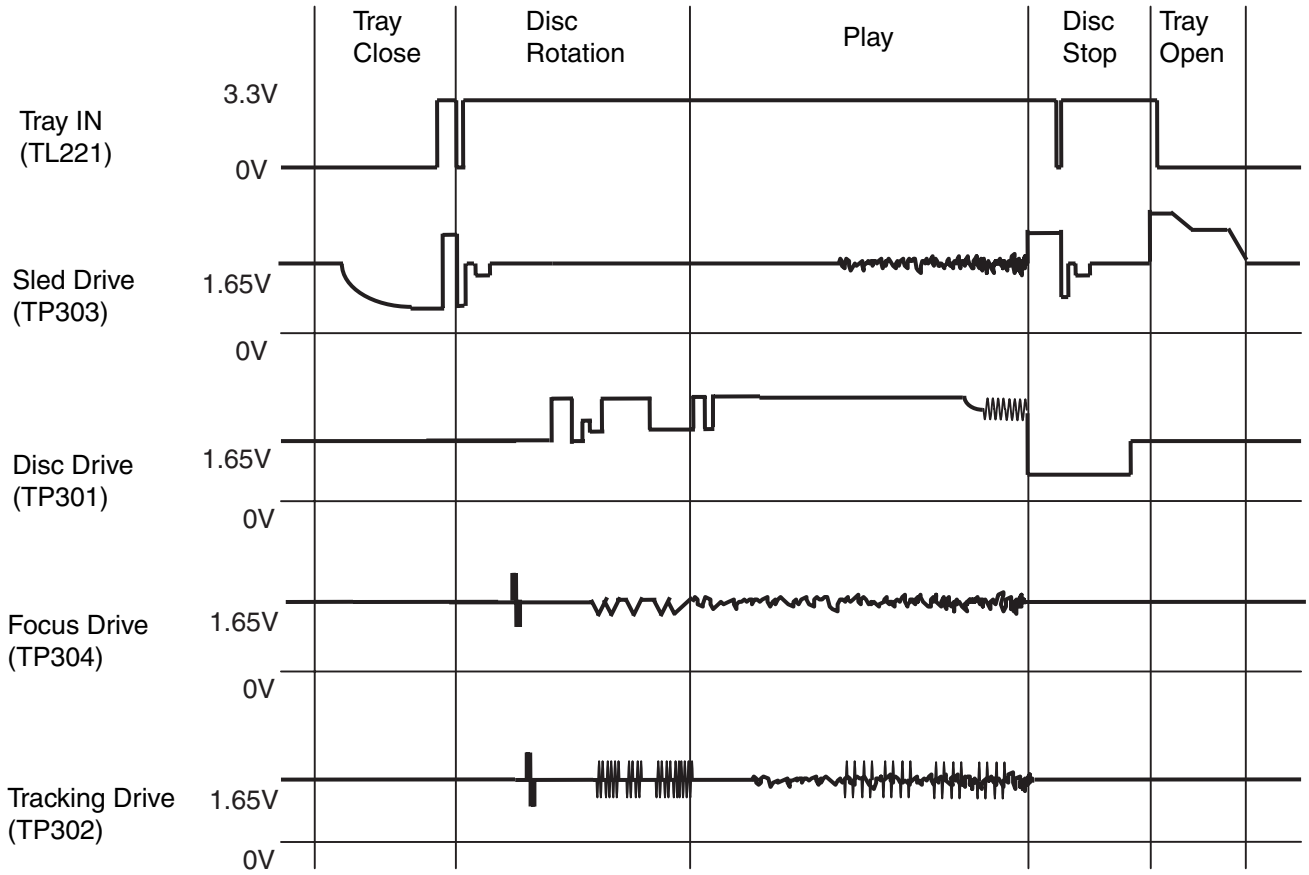

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
PIN NO.
74 LD-SW
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
21 LM-FWD "M" /REV
"Z" C-DRIVE
27 C-F/R
DRUM ROTATION
22 P-ON
7 A-MUTE-H
23 D-PB
24 D-REC-H
77 TV/VCR
DISPLAY
STOP(A)
FF
LD-REV
0.2S
LD-FWD
FF
STOP /EJECT
REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REW
LD-REV
0.2S
LD-FWD
REW
STOP /EJECT
LD-REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REC
LD-FWD
REC
PAUSE
LD-FWD
2.5S Short REV
LD-REV
0.2S
LD-FWD
REC PAUSE
REC or PAUSE
REC
STOP /EJECT
LD-FWD
1.5S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
STOP /EJECT
LD-REV
0.2S
LD-REV
0.5S
0.2S
0.5S
CASS. UNLD
EJECT
ST-S/ END-S "ON"
0.2S
0.4S
40mS
20mS
0.1S
1.0S
1.2S
STOP
FF
STOP
REW
STOP
REC
REC PAUSE
REC
STOP

Fig. 4

[DVD Section]

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

[VCR Section]

IC501(SERVO / SYSTEM CONTROL IC)

"H" ≥ 4.5V, "L" ≤ 1.0V

Pin No.	IN/ OUT	Signal Name	Function	Active Level
1	IN	P-DOWN -L	Power Voltage Down Detector Signal	L
2	IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab = "L"/ With out Record tab = "H")	H/L
3	IN	T-REEL	Take Up Reel Rotation Signal	PULSE
4	-	N.U.	Not Used	-
5	IN	REMOTE-VIDEO	Remote Control Sensor	L
6	-	N.U.	Not Used	-
7	OUT	A-MUTE-H	Audio Mute Control Signal (Mute = "H")	H
8	-	N.U.	Not Used	-
9	-	N.U.	Not Used	-
10	-	N.U.	Not Used	-
11	-	N.U.	Not Used	-
12	IN/ OUT	IIC-BUS-SDA	IIC BUS Control Data	H/L
13	OUT	IIC-BUS-SCL	IIC BUS Control Clock	H/L
14	OUT	YCA-SCL	YCA IC Control Clock	H/L
15	OUT	YCA-SDA	YCA IC Control Data	H/L
16	OUT	YCA-CS	YCA IC Control Chip Select	H/L
17	-	N.U.	Not Used	-
18	OUT	RF-SW	Video Head Switching Pulse	H/L
19	OUT	D-V SYNC	Dummy V-sync Output	H/Hi-z
20	IN	RESET	System Reset Signal (Reset="L")	L
21	OUT	LM-FWD/ REV	Loading Motor FWD/ REV Output	H/Z/L
22	OUT	P-ON-L	Power On Signal to Low	L
23	-	N.U.	Not Used	-
24	OUT	D-REC-H	Delayed Record Signal	H
25	OUT	HiFi-H-SW	HiFi Audio Head Switching Pulse	H/L
26	OUT	DVD-POWER	DVD Power Control Signal	H
27	OUT	C-F/R	Capstan Motor FWD/ REV Control Signal (FWD="L"/REV="H")	H/L
28	OUT	C-CONT	Capstan Motor Control Signal	PWM
29	OUT	D-CONT	Drum Motor Control Signal	PWM
30	-	N.U.	Not Used	-
31	-	VDD	VDD	-
32	OUT	OSCO	Main Clock Output 14.31818MHz	-
33	IN	OSCI	Main Clock Input 14.31818MHz	-
34	-	VSS	VSS	
35	IN	XI	Sub Clock Input 32.768 MHz	-
36	OUT	XO	Sub Clock Output 32.768 MHz	-
37	IN	SXI	Operation Mode Selecting Input Signal	-
38	OUT	VIDEO-OUT	Composite Video Signal Output	-
39	-	Vss2	Vss2	-
40	IN	VIDEO-IN	Composite Video Signal Input	-
41	IN	C-SYNC	Composite Synchronized Pulse	PULSE
42	-	VDD2	VDD2	-
43	IN	AFCC	Low Path Filter Input Signal For AFC	-
44	OUT	AFCLPF	Low Path Filter Output Signal For AFC	-
45	-	N.U.	Not Used	-
46	OUT	OUTPUT-SELECT	Output Select	H/L
47	IN	D-PFG	Drum PG/FG Input Signal	PULSE
48	-	N.U.	Not Used	-
49	IN	C-FG	Capstan Motor Rotation Detection Pulse	PULSE
50	-	AFG	GND	-

Pin No.	IN/ OUT	Signal Name	Function	Active Level
51	OUT	VRO	Servo Standard Voltage Output	-
52	IN	VRI	Servo Standard Voltage Input	-
53	-	AVss	AVSS	-
54	IN	CTLA	CTL Amp. AC GND	-
55	-	AVDD	AVDD	-
56	IN/ OUT	CTL (+)	Playback/Record Control Signal (+)	-
57	IN/ OUT	CTL (-)	Playback/Record Control Signal (-)	-
58	OUT	CTL	Amp. Output Control Signal for Test Point	-
59	IN	HiFi/ NOR-IN	Audio Mode Input HiFi=”L”/ Normal=”H”	A/D
60	IN	DVD-POW-MONITOR	DVD Power Monitor Signal (P-off="L", P-on="H")	H/L
61	IN	ST/SAP-IN	Tuner Stereo/Sap Detector Signal Input	A/D
62	IN	END-S	Tape End Position Detect Signal	A/D
63	IN	AFC	Automatic Frequency Control Signal	A/D
64	IN	V-ENV	Video Envelope Comparator Signal	A/D
65	IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage	A/D
66	IN	KEY-2	A/D Key Data Signal 2	A/D
67	IN	KEY-1	A/D Key Data Signal 1	A/D
68	IN	LD-SW	Deck Mode Position Detector Signal	A/D
69	IN	ST-S	Tape Start Position Detector Signal	A/D
70	OUT	DVD-L-IND	VCR Mode LED Signal Output	H/L
71	OUT	DVD-H-IND	DVD Mode LED Signal Output	H/L
72	OUT	REC-IND	REC Mode LED Signal Output	H/L
73	-	N.U.	Not Used	-
74	-	N.U.	Not Used	-
75	OUT	TIMER-IND	TIMER LED Signal Output	H/L
76	OUT	CONV-SW	RF Conv. Output Channel Switching Signal 3ch=”Hi-z”, 4ch=”L”	Hi-z/L
77	OUT	VCR/TV	RF Conv. ON/OFF Signal (TV="L"/ VCR="H")	H/L
78	OUT	C-ROTA	Color Phase Rotary Changeover Signal	H/L
79	OUT	H-A-SW	Video Head Amp Switching Pulse	H/L
80	IN	H-A-COMP	Head Amp Comparator Signal	H/L

Notes:

Abbreviation for Active Level:

PWM -----Pulse Wide Modulation

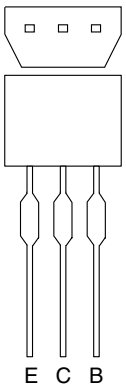
A/D--------Analog - Digital Converter

[DVD Section]

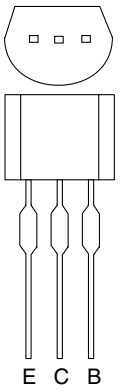
IC571 [PT6313-S-TP]

Pin No.	In/Out	Signal Name	Name Function
1	In	FP-CLK	Clock Input
2	In	FP-STB	Serial Interface Strobe
3	-	N.U.	Not Used
4	-	N.U.	Not Used
5	-	VSS	GND
6	-	VDD	Power Supply
7	Out	a	Segment Output
8	Out	b	
9	Out	c	
10	Out	d	
11	Out	e	
12	In	f	
13	In	g	
14	Out	h	
15	-	VEE	Pull Down Level
16	Out	i	Segment Output
17	Out	7G	Grid Output
18		6G	
19		5G	
20		4G	
21		3G	
22		2G	
23		1G	
24	-	VDD	Power Supply
25	-	VSS	GND
26	In	OSC	Oscillator Input
27	-	N.U.	Not Used
28	In	FP-DIN	Serial Data Input

LEAD IDENTIFICATIONS

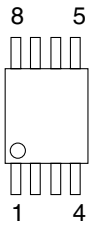


2SA1175(J,H,F)
2SC2785(J,H,F,K)
BA1F4M-T
BN1F4M-T
KRA103M
KRC103M
KTA1266(GR)
KTA1267(GR,Y)
KTC3193(Y)
KTC3199(Y,GR,BL)

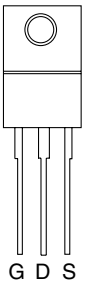


2SA1015-GR(TPE2)
2SC1815-BL(TPE2)
2SC1815-GR(TPE2)
2SC1815-Y(TPE2)
2SC2120-Y(TPE2)
KTC3198(Y,GR)
KTC3203(Y)

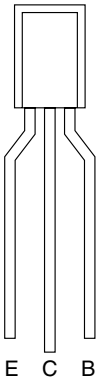
KIA4558P
NJM4558D



2SK3543



2SC536NF-NPA-AT
2SC536NG-NPA-AT



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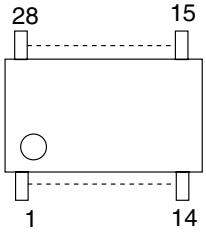
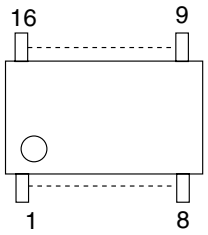
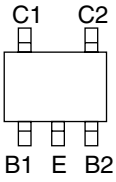


EL817A
EL817B
EL817C
LTV-817B-F
LTV-817C-F
PS2561A-1(Q,W)

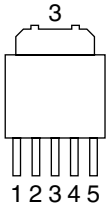
MM1637XVBE



FMG4A T148
RN1511(TE85R)

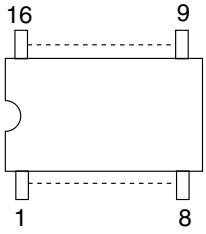


PQ070XZ5MZP

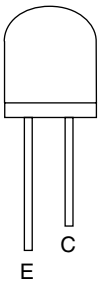


1: Vin
2: Vc
3: Vo
4: Vadj
5: GND

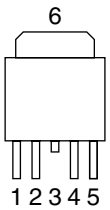
BU4053BCF
CD4053BCSJX
TC4053BF(N)



MID-32A22F
PT204-6B-12

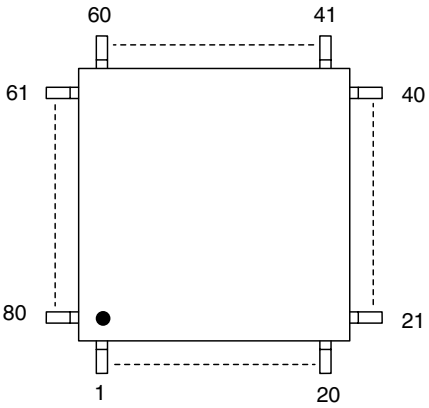


BA3948FP-E2



1: CTL
2: Vcc
3: N.C.
4: OUT
5: C
6: GND

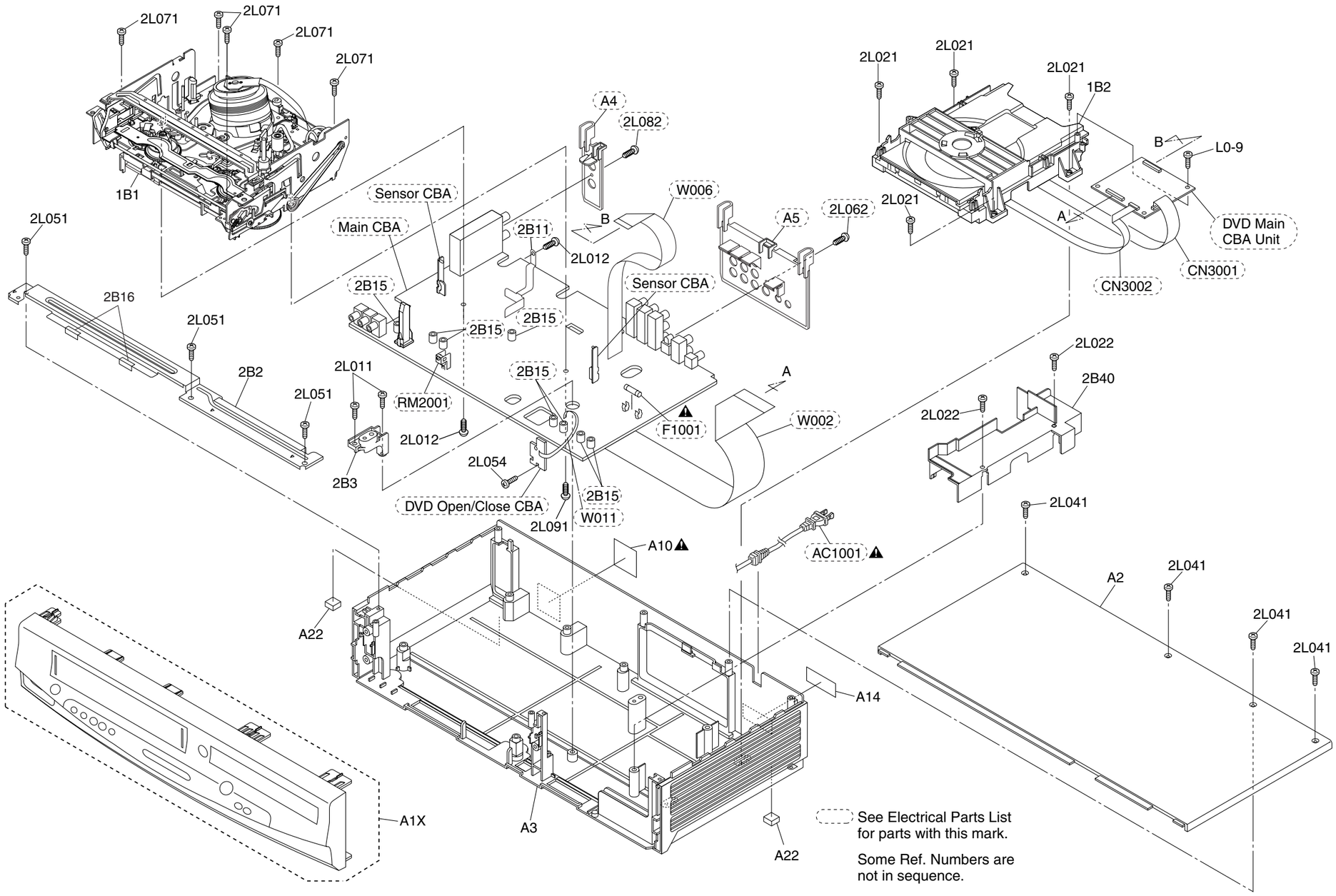
LA71205M-MPB-E
LA72670BM-MPB-E
QSZAA0RMS017



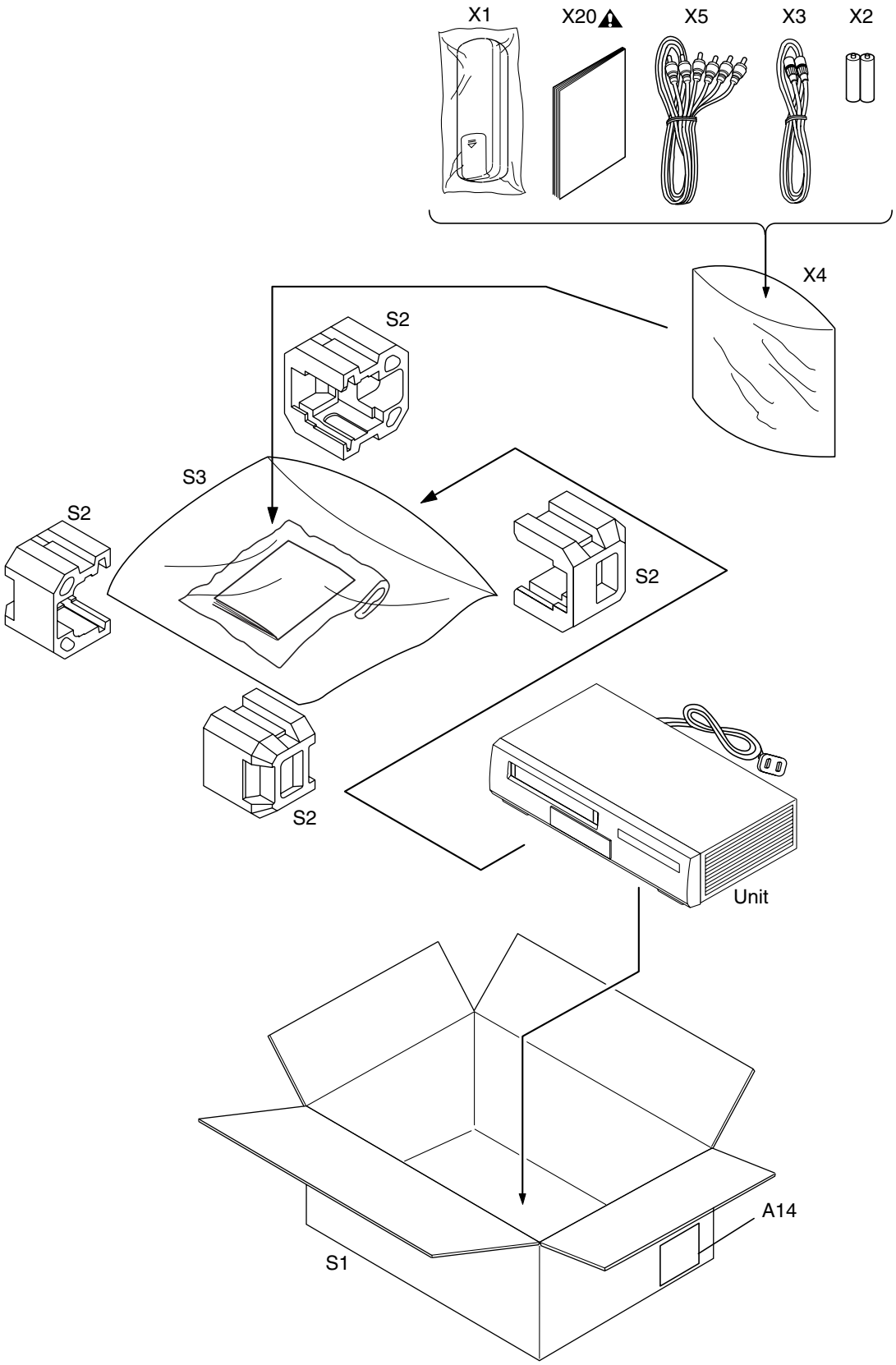
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

Cabinet



Packing



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

Ref. No.	Description	Part No.
A1X	FRONT ASSEMBLY H9602UD	0VM204656
A2	TOP CASE H9600UD	0VM101340
A3	CHASSIS(D5) H9600UD	0VM000197
A10⚠	LABEL, RATING(U) H9602UD or	---------
⚠	LABEL, RATING(D) H9602UD	---------
A14	LABEL, BAR CODE HB400UD or	---------
	LABEL, BAR CODE H9602UD	---------
A22	CHASSIS FOOT H79P9JD	0VM412315
1B1	DECK ASSEMBLY CZD013/VM2260	N2260FL
1B2	DVD MECHA(FG LESS) 0838 VCZL0500	N79F0HVM
2B2	TOP BRACKET H9600UD	0VM204470
2B3	RODER HOLDER H9600UD	0VM306676
2B16	TAPE, HIMELON H9206JD	0VM413956
2B40	PARTITION PLATE H9600UD	0VM306677
2L011	P-TIGHT SCREW 3X8 BIND +	GBMP3080
2L012	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
2L021	SCREW, P-TIGHT 3X12 BIND HEAD+	GBMP3120
2L022	P-TIGHT SCREW 3X8 BIND +	GBMP3080
2L041	SCREW, P-TIGHT 3X10 BIND HEAD+	GBEP3100
2L051	SCREW, P-TIGHT M3X6 BIND HEAD+	GBMP3060
2L054	SCREW, P-TIGHT M3X6 BIND HEAD+	GBMP3060
2L071	SCREW, P-TIGHT M3X10 WASHER HEAD+	GCMP3100
2L091	SCREW, P-TIGHT M3X8 BIND HEAD+	GBCP3080
PACKING		
S1	GIFT BOX CARTON H9602UD	0VM306775
S2	STYROFOAM H9600UD	0VM204474
S3	UNIT, BAG E5500UD	0VM411683
ACCESSORIES		
X1	REMOTE CONTROL UNIT 364 CZF05DD	NB111UD
X2	DRY BATTERY R6P/2S or	XB0M451T0001
	DRY BATTERY ES-GR6M-C	XB0M571GLP01
X3	RF CABLE 2.5C-2V	WPZ0901TM002
X4	ACCESSORY BAG E5700UD	0VM415576
X5	AV CORD TSCKA-Y/RW100 or	WPZ0102TM015
	AV CORD RCA(M*2)TO RCA(M*2)	WPZ0102LTE01
X20⚠	OWNER'S MANUAL H9602UD	0VMN04014

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N79FNHUP

MCV CBA

Ref. No.	Description	Part No.
	MCV CBA Consists of the following	0VSA15144
	MAIN CBA (MCV-A) DVD OPEN/CLOSE CBA (MCV-C) SENSOR CBA	---------- ---------- 0VSA14947

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA (MCV-A) Consists of the following:	----------
	CAPACITORS	
C013	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C017	CERAMIC CAP. YV Z 0.01μF/50V	CCD1JZSYV103
C018	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASTL471
C020	ELECTROLYTIC CAP. 1000μF/10V M or	CE1AMZPDL102
	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMZPTL102
C021	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C023	ELECTROLYTIC CAP. 100μF/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASTL101
C030	CERAMIC CAP.(AX) B K 0.033μF/50V	CA1J333TU011
C051	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C053	ELECTROLYTIC CAP. 220μF/6.3V M or	CE0KMASDL221
	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASTL221
C060	CHIP CERAMIC CAP. B K 0.1μF/25V or	CHD1EKB0B104
	CHIP CERAMIC CAP. B K 0.1μF/16V or	CHD1CKB0B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/16V	CHD1CK30B104
C301	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C302	CHIP CERAMIC CAP. CH J 390pF/50V or	CHD1JJBCH391
	CHIP CERAMIC CAP. CH J 390pF/50V or	CHD1JJ3CH391
	CHIP CERAMIC CAP. CG J 390pF/50V	CHD1JJ3CG391
C303	PCB JUMPER D0.6-P5.0	JW5.0T
C304	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V or	CZM1JJBSL101
	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V or	CZM1JJ3SL101
	CHIP CERAMIC CAP. CH J 100pF/50V or	CHD1JJBCH101
	CHIP CERAMIC CAP.(1608) CH J 100pF/50V or	CHD1JJ3CH101
	CHIP CERAMIC CAP. CG J 100pF/50V	CHD1JJ3CG101
C305	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V or	CZM1JJBSL101
	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V or	CZM1JJ3SL101
	CHIP CERAMIC CAP. CH J 100pF/50V or	CHD1JJBCH101
	CHIP CERAMIC CAP.(1608) CH J 100pF/50V or	CHD1JJ3CH101
	CHIP CERAMIC CAP. CG J 100pF/50V	CHD1JJ3CG101
C307	CHIP CERAMIC CAP. F Z 1μF/10V or	CHD1AZB0F105
	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C308	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C309	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C310	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C311	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C312	CHIP CERAMIC CAP. F Z 1μF/10V or	CHD1AZB0F105
	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C313	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C314	CHIP CERAMIC CAP. F Z 1μF/10V or	CHD1AZB0F105
	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C315	CHIP CERAMIC CAP. B K 0.1μF/25V or	CHD1EKB0B104
	CHIP CERAMIC CAP. B K 0.1μF/16V or	CHD1CKB0B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/16V	CHD1CK30B104
C316	CHIP CERAMIC CAP. F Z 1μF/10V or	CHD1AZB0F105
	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C317	CHIP CERAMIC CAP. F Z 1μF/10V or	CHD1AZB0F105
	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C318	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C319	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C320	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C321	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C322	CHIP CERAMIC CAP. CH J 68pF/50V or	CHD1JJBCH680
	CHIP CERAMIC CAP. CH J 68pF/50V or	CHD1JJ3CH680
	CHIP CERAMIC CAP. CG J 68pF/50V	CHD1JJ3CG680
C324	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C326	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C327	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C328	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C329	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C330	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C331	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103

Ref. No.	Description	Part No.
C332	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C333	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C336	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C339	CHIP CERAMIC CAP. B K 0.047μF/50V or	CHD1JKB0B473
	CHIP CERAMIC CAP. B K 0.047μF/25V or	CHD1EKB0B473
	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V or	CHD1JK30B473
	CHIP CERAMIC CAP.(1608) B K 0.047μF/25V	CHD1EK30B473
C340	CHIP CERAMIC CAP. B K 0.1μF/25V or	CHD1EKB0B104
	CHIP CERAMIC CAP. B K 0.1μF/16V or	CHD1CKB0B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/16V	CHD1CK30B104
C341	CHIP CERAMIC CAP. B K 0.047μF/50V or	CHD1JKB0B473
	CHIP CERAMIC CAP. B K 0.047μF/25V or	CHD1EKB0B473
	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V or	CHD1JK30B473
	CHIP CERAMIC CAP.(1608) B K 0.047μF/25V	CHD1EK30B473
C342	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C343	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C346	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C391	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMAVSL101
C392	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C401	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C404	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C405	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C406	ELECTROLYTIC CAP. 33μF/6.3V M H7	CE0KMAVSL330
C407	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C408	CHIP CERAMIC CAP. B K 0.012μF/50V or	CHD1JKB0B123
	CHIP CERAMIC CAP. B K 0.012μF/50V	CHD1JK30B123
C409	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C410	CHIP CERAMIC CAP. B K 2700pF/50V or	CHD1JKB0B272
	CHIP CERAMIC CAP. B K 2700pF/50V	CHD1JK30B272
C411	CHIP CERAMIC CAP.(MELF) Y K 1000pF/35V or	CZM1GKB0Y102
	CHIP CERAMIC CAP.(MELF) Y K 1000pF/35V	CZM1GK30Y102
C412	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C413	CHIP CERAMIC CAP. B K 6800pF/50V or	CHD1JKB0B682
	CHIP CERAMIC CAP. B K 6800pF/50V	CHD1JK30B682
C414	CHIP CERAMIC CAP.(MELF) Y K 1000pF/35V or	CZM1GKB0Y102
	CHIP CERAMIC CAP.(MELF) Y K 1000pF/35V	CZM1GK30Y102
C422	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C423	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C424	CERAMIC CAP. B K 470pF/100V or	CCD2AKP0B471
	CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C425	FILM CAP.(P) 0.018μF/100V J or	CA2A183MS029
	FILM CAP.(P) 0.018μF/50V J	CA1J183MS029
C440	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10

Ref. No.	Description	Part No.
C441	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C448	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C449	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C451	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C452	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C453	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C454	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C455	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C456	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C457	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C458	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C459	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C460	CHIP CERAMIC CAP.(MELF) Y K 4700pF/16V or	CZM1CKB0Y472
	CHIP CERAMIC CAP.(MELF) Y K 4700pF/16V	CZM1CK30Y472
C461	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C462	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C463	CHIP CERAMIC CAP. B K 0.1μF/25V or	CHD1EKB0B104
	CHIP CERAMIC CAP. B K 0.1μF/16V or	CHD1CKB0B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/16V	CHD1CK30B104
C465	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C466	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C467	CHIP CERAMIC CAP. B K 0.022μF/50V or	CHD1JKB0B223
	CHIP CERAMIC CAP. B K 0.022μF/25V or	CHD1EKB0B223
	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or	CHD1JK30B223
	CHIP CERAMIC CAP.(1608) B K 0.022μF/25V	CHD1EK30B223
C469	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C470	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C471	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C472	CHIP CERAMIC CAP.(MELF) Y K 4700pF/16V or	CZM1CKB0Y472
	CHIP CERAMIC CAP.(MELF) Y K 4700pF/16V	CZM1CK30Y472
C473	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C474	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C475	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C476	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C477	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C478	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C479	CHIP CERAMIC CAP. B K 0.022μF/50V or	CHD1JKB0B223
	CHIP CERAMIC CAP. B K 0.022μF/25V or	CHD1EKB0B223
	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or	CHD1JK30B223
	CHIP CERAMIC CAP.(1608) B K 0.022μF/25V	CHD1EK30B223
C480	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C481	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C483	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C484	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C485	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C486	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C487	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C488	CHIP CERAMIC CAP. F Z 1μF/10V or	CHD1AZB0F105
	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C489	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C491	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C492	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220

Ref. No.	Description	Part No.
C493	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C494	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C495	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C496	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C498	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C499	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C502	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C505	ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C507	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C508	CHIP CERAMIC CAP. B K 0.022μF/50V or	CHD1JKB0B223
	CHIP CERAMIC CAP. B K 0.022μF/25V or	CHD1EKB0B223
	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or	CHD1JK30B223
	CHIP CERAMIC CAP.(1608) B K 0.022μF/25V	CHD1EK30B223
C509	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C513	CHIP CERAMIC CAP.(MELF) SL D 10pF/50V or	CZM1JDBSL100
	CHIP CERAMIC CAP.(MELF) SL D 10pF/50V or	CZM1JD3SL100
	CHIP CERAMIC CAP. CH D 10pF/50V or	CHD1JDBCH100
	CHIP CERAMIC CAP. CH D 10pF/50V or	CHD1JD3CH100
	CHIP CERAMIC CAP. CG D 10pF/50V	CHD1JD3CG100
C514	CHIP CERAMIC CAP.(MELF) SL J 22pF/50V or	CZM1JJBSL220
	CHIP CERAMIC CAP.(MELF) SL J 22pF/50V or	CZM1JJ3SL220
	CHIP CERAMIC CAP. CH J 22pF/50V or	CHD1JJBCH220
	CHIP CERAMIC CAP.(1608) CH J 22pF/50V or	CHD1JJ3CH220
	CHIP CERAMIC CAP. CG J 22pF/50V	CHD1JJ3CG220
C515	CHIP CERAMIC CAP.(MELF) SL J 18pF/50V or	CZM1JJBSL180
	CHIP CERAMIC CAP.(MELF) SL J 18pF/50V or	CZM1JJ3SL180
	CHIP CERAMIC CAP. CH J 18pF/50V or	CHD1JJBCH180
	CHIP CERAMIC CAP. CH J 18pF/50V or	CHD1JJ3CH180
	CHIP CERAMIC CAP. CG J 18pF/50V	CHD1JJ3CG180
C521	ELECTROLYTIC CAP. 47μF/25V M H7	CE1EMAVSL470
C522	CHIP CERAMIC CAP. B K 4700pF/50V or	CHD1JKB0B472
	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C523	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V or	CZM1JJBSL101
	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V or	CZM1JJ3SL101
	CHIP CERAMIC CAP. CH J 100pF/50V or	CHD1JJBCH101
	CHIP CERAMIC CAP.(1608) CH J 100pF/50V or	CHD1JJ3CH101
	CHIP CERAMIC CAP. CG J 100pF/50V	CHD1JJ3CG101
C525	CHIP CERAMIC CAP. B K 4700pF/50V or	CHD1JKB0B472
	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C527	CHIP CERAMIC CAP. B K 0.047μF/50V or	CHD1JKB0B473
	CHIP CERAMIC CAP. B K 0.047μF/25V or	CHD1EKB0B473
	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V or	CHD1JK30B473
	CHIP CERAMIC CAP.(1608) B K 0.047μF/25V	CHD1EK30B473
C529	CHIP CERAMIC CAP. B K 0.022μF/50V or	CHD1JKB0B223
	CHIP CERAMIC CAP. B K 0.022μF/25V or	CHD1EKB0B223
	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or	CHD1JK30B223
	CHIP CERAMIC CAP.(1608) B K 0.022μF/25V	CHD1EK30B223
C530	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C531	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C532	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C533	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C534	CHIP CERAMIC CAP. B K 0.1μF/25V or	CHD1EKB0B104
	CHIP CERAMIC CAP. B K 0.1μF/16V or	CHD1CKB0B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP.(1608) B K 0.1μF/16V	CHD1CK30B104
C535	ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C536	CHIP CERAMIC CAP. B K 1000pF/50V or	CHD1JKB0B102
	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C537	CHIP CERAMIC CAP. B K 1000pF/50V or	CHD1JKB0B102
	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102

Ref. No.	Description	Part No.
C540	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C541	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C544	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C701	ELECTROLYTIC CAP. 0.47μF/50V M or	CE1JMASDLR47
	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASTLR47
C703	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C704	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C708	ELECTROLYTIC CAP. 0.22μF/50V M or	CE1JMASDLR22
	ELECTROLYTIC CAP. 0.22μF/50V M	CE1JMASTLR22
C709	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTL1R0
C751	CHIP CERAMIC CAP.(MELF) Y K 2200pF/35V or	CZM1GKB0Y222
	CHIP CERAMIC CAP.(MELF) Y K 2200pF/35V	CZM1GK30Y222
C752	CHIP CERAMIC CAP.(MELF) Y K 2200pF/35V or	CZM1GKB0Y222
	CHIP CERAMIC CAP.(MELF) Y K 2200pF/35V	CZM1GK30Y222
C762	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C766	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V or	CZM1CZB0F103
	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C772	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMASSL4R7
C773	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMASSL4R7
C777	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1001⚠	METALLIZED FILM CAP. 0.022μF/275V K or	CT2E223HJE13
⚠	METALLIZED FILM CAP. 0.022μF/275V K or	CT2E223HJE05
⚠	METALLIZED FILM CAP. 0.022μF/250V K or	CT2E223DC011
⚠	METALLIZED FILM CAP. 0.022μF/250V M	CT2E223MS037
C1002	ELECTROLYTIC CAP. 22μF/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASTL220
C1003	CERAMIC CAP. B K 0.01μF/500V	CCD2JKP0B103
C1004	ELECTROLYTIC CAP. 220μF/200V M	CA2D221S6008
C1005	CERAMIC CAP. B K 120pF/500V	CCD2JKP0B121
C1006⚠	SAFETY CAP. 3300pF/250V or	CCG2EMA0F332
⚠	SAFETY CAP. 3300pF/250V	CCD2EMA0E332
C1007	ELECTROLYTIC CAP. 1000μF/6.3V M or	CE0KMASDL102
	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASTL102
C1008	CERAMIC CAP. B K 120pF/500V	CCD2JKP0B121
C1013	CERAMIC CAP.(AX) X K 3300pF/16V	CCA1CKT0X332
C1014	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C1015	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C1023	CERAMIC CAP. B K 470pF/100V or	CCD2AKP0B471
	CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C1029	CERAMIC CAP.(AX) X K 5600pF/16V	CCA1CKT0X562
C1032	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C1033	CERAMIC CAP. YV Z 0.022μF/50V	CCD1JZSYV223
C1038	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C1039	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C1040	ELECTROLYTIC CAP. 100μF/6.3V M or	CE0KMASDL101

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASTL101
C1042	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471
C1070	CHIP CERAMIC CAP. B K 0.01µF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1201	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMAVSL100
C1202	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C1205	CHIP CERAMIC CAP. CH J 220pF/50V or	CHD1JJBCH221
	CHIP CERAMIC CAP. CH J 220pF/50V or	CHD1JJ3CH221
	CHIP CERAMIC CAP. CG J 220pF/50V	CHD1JJ3CG221
C1206	CHIP CERAMIC CAP. CH J 220pF/50V or	CHD1JJBCH221
	CHIP CERAMIC CAP. CH J 220pF/50V or	CHD1JJ3CH221
	CHIP CERAMIC CAP. CG J 220pF/50V	CHD1JJ3CG221
C1207	CHIP CERAMIC CAP. CH J 47pF/50V or	CHD1JJBCH470
	CHIP CERAMIC CAP.(1608) CH J 47pF/50V or	CHD1JJ3CH470
	CHIP CERAMIC CAP. CG J 47pF/50V	CHD1JJ3CG470
C1208	CHIP CERAMIC CAP. CH J 47pF/50V or	CHD1JJBCH470
	CHIP CERAMIC CAP.(1608) CH J 47pF/50V or	CHD1JJ3CH470
	CHIP CERAMIC CAP. CG J 47pF/50V	CHD1JJ3CG470
C1221	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMAVSL100
C1222	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C1223	CHIP CERAMIC CAP. B K 1000pF/50V or	CHD1JKB0B102
	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C1224	CHIP CERAMIC CAP. B K 1000pF/50V or	CHD1JKB0B102
	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C1245	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
C1246	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
C1247	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471
C1249	ELECTROLYTIC CAP. 47µF/16V M H7	CE1CMAVSL470
C1351	CHIP CERAMIC CAP. B K 0.1µF/25V or	CHD1EKB0B104
	CHIP CERAMIC CAP. B K 0.1µF/16V or	CHD1CKB0B104
	CHIP CERAMIC CAP.(1608) B K 0.1µF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP.(1608) B K 0.1µF/16V	CHD1CK30B104
C1352	ELECTROLYTIC CAP. 47µF/6.3V M H7	CE0KMAVSL470
C1354	CHIP CERAMIC CAP. CH J 100pF/50V or	CHD1JJBCH101
	CHIP CERAMIC CAP.(1608) CH J 100pF/50V or	CHD1JJ3CH101
	CHIP CERAMIC CAP. CG J 100pF/50V	CHD1JJ3CG101
C1355	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
C1394	ELECTROLYTIC CAP. 47µF/6.3V M H7	CE0KMASSL470
C1395	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471
C1421	CHIP CERAMIC CAP. B K 0.01µF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1422	CHIP CERAMIC CAP. B K 0.1µF/25V or	CHD1EKB0B104
	CHIP CERAMIC CAP. B K 0.1µF/16V or	CHD1CKB0B104
	CHIP CERAMIC CAP.(1608) B K 0.1µF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP.(1608) B K 0.1µF/16V	CHD1CK30B104
C1441	CHIP CERAMIC CAP. B K 0.33µF/10V or	CHD1AKB0B334
	CHIP CERAMIC CAP.(1608) B K 0.33µF/10V	CHD1AK30B334
C1442	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471

Ref. No.	Description	Part No.
C1461	ELECTROLYTIC CAP. 1µF/50V M H7	CE1JMAVSL1R0
C1462	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471
C1481	ELECTROLYTIC CAP. 1µF/50V M H7	CE1JMAVSL1R0
C1482	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471
C1522	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMAVSL100
C1523	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
C1524	ELECTROLYTIC CAP. 100µF/6.3V H7	CE0KMAVSL101
C1531	CHIP CERAMIC CAP. B K 0.01µF/50V or	CHD1JKB0B103
	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1532	ELECTROLYTIC CAP. 22µF/6.3V M H7	CE0KMAVSL220
C2002	CHIP CERAMIC CAP. B K 1000pF/50V or	CHD1JKB0B102
	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C2004	ELECTROLYTIC CAP. 100µF/6.3V H7	CE0KMAVSL101
C2012	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZB0F104
	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
	DIODES	
D013	RECTIFIER DIODE BA158 or	NDQZ000BA158
	RECTIFIER DIODE BA158 or	NDWZ000BA158
	RECTIFIER DIODE ERA22-10	QDPZ0ERA2210
D015	SCHOTTKY BARRIER DIODE SB370	NDQZ000SB370
D016	SCHOTTKY BARRIER DIODE SB340 or	NDQZ000SB340
	SCHOTTKY BARRIER DIODE SB340	NDWZ000SB340
D019	PCB JUMPER D0.6-P10.0	JW10.0T
D030	RECTIFIER DIODE BA158 or	NDQZ000BA158
	RECTIFIER DIODE BA158 or	NDWZ000BA158
	RECTIFIER DIODE ERA22-10	QDPZ0ERA2210
D031	ZENER DIODE DZ-18BSBT265 or	NDTB00DZ18BS
	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D040	ZENER DIODE DZ-6.8BSBT265 or	NDTB0DZ6R8BS
	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D052	ZENER DIODE DZ-10BSBT265 or	NDTB00DZ10BS
	ZENER DIODE MTZJT-7710B	QDTB00MTZJ10
D080	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D081	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D082	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D100	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D101	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D501	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D504	ZENER DIODE DZ-18BSBT265 or	NDTB00DZ18BS
	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D510	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D555	LED MIE-534A2 or	NPZZM1E534A2
	LED SIR-563ST3F P or	QPQPS1R563ST
	LED SIR-563ST3F Q	QPQQS1R563ST
D564	LED(RED) 204HD/E	NPQZ00204HDE

Ref. No.	Description	Part No.
D565	LED(RED) 204HD/E	NPQZ00204HDE
D566	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D567	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D571	LED(RED) 204HD/E	NPQZ00204HDE
D701	ZENER DIODE DZ-33BSDT265 or	NDTD00DZ33BS
	ZENER DIODE MTZJT-7733D	QDTD00MTZJ33
D1001	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D1002	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D1003	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D1004	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D1007	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
D1008	SCHOTTKY BARRIER DIODE SB140 or	NDQZ000SB140
	SCHOTTKY BARRIER DIODE SB140	NDWZ000SB140
D1010	RECTIFIER DIODE BA158 or	NDQZ000BA158
	RECTIFIER DIODE BA158 or	NDWZ000BA158
	RECTIFIER DIODE ERA22-10	QDPZ0ERA2210
D1011	RECTIFIER DIODE BA158 or	NDQZ000BA158
	RECTIFIER DIODE BA158 or	NDWZ000BA158
	RECTIFIER DIODE ERA22-10	QDPZ0ERA2210
D1012	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1018	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1020	SCHOTTKY BARRIER DIODE SB140 or	NDQZ000SB140
	SCHOTTKY BARRIER DIODE SB140	NDWZ000SB140
D1022	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1024	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1025	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1031	PCB JUMPER D0.6-P5.0	JW5.0T
D1036	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D1037	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D1038	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D1058	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	NDWZ001N4005
D1301	ZENER DIODE DZ-5.6BSBT265 or	NDTB0DZ5R6BS
	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D2001	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D2002	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
ICS		
IC301	IC:Y/C/A LA71205M-MPB-E	QSZBA0RSY037
IC451	IC:HIFI LA72670BM-MPB-E	QSZBA0RSY039
IC501	MICROCONTROLLER 8BIT MN101D08DFT	QSZAA0RMS017
IC751	IC:SWITCH TC4053BF(N) or	QSMBA0STS002
	IC:SWITCH BU4053BCF or	QSMDA0SRM010
	IC:ANALOG MULTIPLEXERS CD4053BCSJX	NSZBA0TF3071
IC1001⚠	PHOTOCOUPLER LTV-817B-F or	NPEB0LTV817F
⚠	PHOTOCOUPLER EL817A or	NPEA000EL817
⚠	PHOTOCOUPLER EL817B or	NPEB000EL817
⚠	PHOTOCOUPLER EL817C or	NPEC000EL817
⚠	PHOTOCOUPLER PS2561A-1(Q) or	QPEQPS2561A1
⚠	PHOTOCOUPLER PS2561A-1(W) or	QPEWPS2561A1

Ref. No.	Description	Part No.
⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1002	VOLTAGE REGULATOR PQ070XZ5MZP	QSZBA0TSH034
IC1004	VOLTAGE REGULATOR BA3948FP-E2	QSZBA0TRM073
IC1201	IC:OP AMP KIA4558P or	NSZBA0SJY004
	IC:OP AMP NJM4558D	QSZBA0SJR006
IC1402	DRIVER FOR DVD MM1637XVBE	QSZBA0TMM102
COILS		
L009	CHOKE COIL 47µH-K or	LLBD00PKV007
	CHOKE COIL 47µH-K or	LLBD00PKV005
	CHOKE COIL 47µH-K	LLBD00PKT001
L251	PCB JUMPER D0.6-P5.0	JW5.0T
L303	INDUCTOR(100µH K) LAP02TA101K	LLAXKATTU101
L304	CHOKE COIL 47µH-K or	LLBD00PKV007
	CHOKE COIL 47µH-K or	LLBD00PKV005
	CHOKE COIL 47µH-K	LLBD00PKT001
L421	INDUCTOR 47µH-K-5FT	LLARKBSTU470
L422	PCB JUMPER D0.6-P5.0	JW5.0T
L451	PCB JUMPER D0.6-P5.0	JW5.0T
L501	PCB JUMPER D0.6-P5.0	JW5.0T
L502	CHOKE COIL 47µH-K or	LLBD00PKV007
	CHOKE COIL 47µH-K or	LLBD00PKV005
	CHOKE COIL 47µH-K	LLBD00PKT001
L503	INDUCTOR 12µH-K-26T	LLAXKATTU120
L504	PCB JUMPER D0.6-P5.0	JW5.0T
L701	INDUCTOR 4.7µH-K-26T	LLAXKATTU4R7
L771	PCB JUMPER D0.6-P5.0	JW5.0T
L1001⚠	LINE FILTER 27MH TLF14CB2730R4 or	LLBG00ZTU034
⚠	LINE FILTER 27MH CSA-LF199A	LLBG00ZSA008
L1004	BEAD CORE B16 RH 3.5X10X1.3	XL03010XM001
L1007	CHOKE COIL 47µH-K or	LLBD00PKV007
	CHOKE COIL 47µH-K or	LLBD00PKV005
	CHOKE COIL 47µH-K	LLBD00PKT001
L1020	CHOKE COIL 47µH-K or	LLBD00PKV007
	CHOKE COIL 47µH-K or	LLBD00PKV005
	CHOKE COIL 47µH-K	LLBD00PKT001
L1350	INDUCTOR(100µH K) LAP02TA101K	LLAXKATTU101
L1351	INDUCTOR(0.47µH K) LAP02TAR47K	LLAXKATTUR47
L1401	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
L1441	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
L1442	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
L1461	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
L1481	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
L1522	INDUCTOR 47µH-K-5FT	LLARKBSTU470
L2001	INDUCTOR(100µH K) LAP02TA101K	LLAXKATTU101
TRANSISTORS		
Q031	TRANSISTOR KTA1267(Y) or	NQSY0KTA1267
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR 2SA1175(J) or	QQSJ02SA1175
	TRANSISTOR 2SA1175(H) or	QQSH02SA1175
	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q052	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q055	TRANSISTOR KTC3198(Y) or	NQSY0KTC3198
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA

Ref. No.	Description	Part No.
	TRANSISTOR 2SC536NG-NPA-AT	QQSGC536NNPA
Q056	TRANSISTOR KTC3203(Y) or	NQSY0KTC3203
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q057	TRANSISTOR KTC3199(BL) or	NQS50KTC3199
	TRANSISTOR 2SC2785(K) or	QQSK02SC2785
	TRANSISTOR 2SC1815-BL(TPE2)	QQS202SC1815
Q301	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q302	TRANSISTOR KTC3193(Y)	NQSY0KTC3193
Q303	TRANSISTOR KTC3193(Y)	NQSY0KTC3193
Q391	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q421	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q422	TRANSISTOR KTC3203(Y) or	NQSY0KTC3203
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q425	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR BN1F4M-T	QQSZ00BN1F4M
Q426	CHIP TRANSISTOR RN1511(TE85R) or	QQ2Z00RN1511
	CHIP TRANSISTOR FMG4A T148	QQ2Z000FMG4A
Q501	TRANSISTOR KTC3199(BL) or	NQS50KTC3199
	TRANSISTOR 2SC2785(K) or	QQSK02SC2785
	TRANSISTOR 2SC1815-BL(TPE2)	QQS202SC1815
Q506	PHOTO TRANSISTOR PT204-6B-12 or	NPWZT2046B12
	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F
Q563	TRANSISTOR KTA1267(Y) or	NQSY0KTA1267
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR 2SA1175(J) or	QQSJ02SA1175
	TRANSISTOR 2SA1175(H) or	QQSH02SA1175
	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q565	TRANSISTOR KTA1267(Y) or	NQSY0KTA1267
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR 2SA1175(J) or	QQSJ02SA1175
	TRANSISTOR 2SA1175(H) or	QQSH02SA1175
	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q566	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2)	QQSY02SC1815
Q567	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2)	QQSY02SC1815
Q1001⚠	FET 2SK3543	QFWZ02SK3543
Q1003	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1004	TRANSISTOR KTC3203(Y) or	NQSY0KTC3203
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1005	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2)	QQSY02SC1815
Q1006	TRANSISTOR KTA1267(Y) or	NQSY0KTA1267
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR 2SA1175(J) or	QQSJ02SA1175
	TRANSISTOR 2SA1175(H) or	QQSH02SA1175

Ref. No.	Description	Part No.
	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q1008	TRANSISTOR KTC3199(Y)	NQSY0KTC3199
Q1011	TRANSISTOR KTC3203(Y) or	NQSY0KTC3203
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1201	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2)	QQSY02SC1815
Q1202	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2)	QQSY02SC1815
Q1204	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1351	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2)	QQSY02SC1815
Q1385	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2)	QQSY02SC1815
Q2002	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2)	QQSY02SC1815
Q2013	TRANSISTOR KTA1267(Y) or	NQSY0KTA1267
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR 2SA1175(J) or	QQSJ02SA1175
	TRANSISTOR 2SA1175(H) or	QQSH02SA1175
	TRANSISTOR 2SA1175(F)	QQSF02SA1175
	RESISTORS	
R001⚠	GLASS GLAZE RES. 1/2W J 3.3M Ω or	RXX2JZLZ0335
⚠	CARBON RES. 1/2W J 3.3M Ω	RCX2335DP001
R031	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R032	CHIP RES.(1608) 1/10W J 4.7k Ω or	RRXAJB5Z0472
	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R034	CHIP RES.(1608) 1/10W F 2.2k Ω or	RRXAFB5H2201
	CHIP RES.(1608) 1/10W F 2.2k Ω or	RRXAFB5Z2201
	CHIP RES.(1608) 1/10W F 2.2k Ω or	RRXAFR5H2201
	CHIP RES.(1608) 1/10W F 2.2k Ω	RRXAFR5Z2201
R037	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R039	CHIP RES.(1608) 1/10W F 5.6k Ω or	RRXAFB5H5601
	CHIP RES. 1/10W F 5.6k Ω or	RRXAFB5Z5601
	CHIP RES.(1608) 1/10W F 5.6k Ω or	RRXAFR5H5601
	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5Z5601
R041	CHIP RES.(1608) 1/10W J 68k Ω or	RRXAJB5Z0683
	CHIP RES.(1608) 1/10W J 68k Ω	RRXAJR5Z0683
R042	CHIP RES.(1608) 1/10W J 1.8k Ω or	RRXAJB5Z0182
	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182

Ref. No.	Description	Part No.
R043	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R056	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R057	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R058	CHIP RES.(1608) 1/10W J 180 Ω or	RRXAJB5Z0181
	CHIP RES.(1608) 1/10W J 180 Ω	RRXAJR5Z0181
R060	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R061	CARBON RES. 1/6W J 1.2k Ω or	RCX6JATZ0122
	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R062	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R063	PCB JUMPER D0.6-P5.0	JW5.0T
R073	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R075	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R082	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R090	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R091	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R092	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R093	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R094	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R095	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R301	CHIP RES.(1608) 1/10W J 39k Ω or	RRXAJB5Z0393
	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R302	CHIP RES.(1608) 1/10W J 3.3k Ω or	RRXAJB5Z0332
	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R304	CHIP RES.(1608) 1/10W J 1.2k Ω or	RRXAJB5Z0122
	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJR5Z0122
R306	CHIP RES.(1608) 1/10W J 3.9M Ω or	RRXAJB5Z0395
	CHIP RES.(1608) 1/10W J 3.9M Ω	RRXAJR5Z0395
R307	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJB5Z0104
	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R308	CHIP RES.(1608) 1/10W J 82k Ω or	RRXAJB5Z0823
	CHIP RES.(1608) 1/10W J 82k Ω	RRXAJR5Z0823
R309	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R310	CHIP RES.(1608) 1/10W J 4.7k Ω or	RRXAJB5Z0472
	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R311	CHIP RES.(1608) 1/10W J 1.8k Ω or	RRXAJB5Z0182
	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R312	CHIP RES.(1608) 1/10W J 1.8k Ω or	RRXAJB5Z0182
	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R313	CHIP RES.(1608) 1/10W J 1.8k Ω or	RRXAJB5Z0182
	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R314	CHIP RES.(1608) 1/10W J 680k Ω or	RRXAJB5Z0684
	CHIP RES.(1608) 1/10W J 680k Ω	RRXAJR5Z0684
R315	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R316	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R317	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R318	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R319	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R320	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R321	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R322	CHIP RES.(1608) 1/10W J 18k Ω or	RRXAJB5Z0183
	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R323	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R324	CHIP RES.(1608) 1/10W J 18k Ω or	RRXAJB5Z0183
	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R327	CHIP RES. 1/10W F 1.2k Ω or	RRXAFB5H1201
	CHIP RES. 1/10W F 1.2k Ω or	RRXAFB5Z1201
	CHIP RES. 1/10W F 1.2k Ω or	RRXAFR5H1201
	CHIP RES. 1/10W F 1.2k Ω	RRXAFR5Z1201
R391	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R392	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R395	PCB JUMPER D0.6-P5.0	JW5.0T
R397	CHIP RES.(1608) 1/10W J 220 Ω or	RRXAJB5Z0221
	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R401	CHIP RES.(1608) 1/10W J 6.8k Ω or	RRXAJB5Z0682
	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R402	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R407	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R408	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R409	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R410	CHIP RES.(1608) 1/10W J 12k Ω or	RRXAJB5Z0123
	CHIP RES.(1608) 1/10W J 12k Ω	RRXAJR5Z0123
R411	CHIP RES.(1608) 1/10W J 330k Ω or	RRXAJB5Z0334
	CHIP RES.(1608) 1/10W J 330k Ω	RRXAJR5Z0334
R412	CHIP RES.(1608) 1/10W J 150 Ω or	RRXAJB5Z0151
	CHIP RES.(1608) 1/10W J 150 Ω	RRXAJR5Z0151
R413	CHIP RES.(1608) 1/10W J 22k Ω or	RRXAJB5Z0223
	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R414	CHIP RES.(1608) 1/10W J 910 Ω or	RRXAJB5Z0911
	CHIP RES.(1608) 1/10W J 910 Ω	RRXAJR5Z0911
R415	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R416	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R421	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R422	CHIP RES.(1608) 1/10W J 22k Ω or	RRXAJB5Z0223
	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R424	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R425	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R426	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R451	CHIP RES.(1608) 1/10W J 12k Ω or	RRXAJB5Z0123
	CHIP RES.(1608) 1/10W J 12k Ω	RRXAJR5Z0123
R452	CHIP RES.(1608) 1/10W J 4.7k Ω or	RRXAJB5Z0472
	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R453	CHIP RES.(1608) 1/10W J 47k Ω or	RRXAJB5Z0473
	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R454	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R455	CHIP RES.(1608) 1/10W J 47k Ω or	RRXAJB5Z0473
	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R456	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R457	CHIP RES.(1608) 1/10W J 470 Ω or	RRXAJB5Z0471

Ref. No.	Description	Part No.
	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R458	CHIP RES.(1608) 1/10W J 2.7k Ω or	RRXAJB5Z0272
	CHIP RES.(1608) 1/10W J 2.7k Ω	RRXAJR5Z0272
R459	CHIP RES.(1608) 1/10W J 22k Ω or	RRXAJB5Z0223
	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R462	CHIP RES.(1608) 1/10W J 4.7k Ω or	RRXAJB5Z0472
	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R463	CHIP RES.(1608) 1/10W J 47k Ω or	RRXAJB5Z0473
	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R464	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R465	CHIP RES.(1608) 1/10W J 47k Ω or	RRXAJB5Z0473
	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R466	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R467	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R468	CHIP RES.(1608) 1/10W J 470 Ω or	RRXAJB5Z0471
	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R469	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R470	CHIP RES.(1608) 1/10W J 470 Ω or	RRXAJB5Z0471
	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R471	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R472	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R484	CHIP RES.(1608) 1/10W J 47k Ω or	RRXAJB5Z0473
	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R485	CHIP RES.(1608) 1/10W J 15k Ω or	RRXAJB5Z0153
	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R486	CHIP RES.(1608) 1/10W J 47k Ω or	RRXAJB5Z0473
	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R487	CHIP RES.(1608) 1/10W J 15k Ω or	RRXAJB5Z0153
	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R502	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R503	CHIP RES.(1608) 1/10W J 820 Ω or	RRXAJB5Z0821
	CHIP RES.(1608) 1/10W J 820 Ω	RRXAJR5Z0821
R504	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJB5Z0104
	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R506	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJB5Z0104
	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R508	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R511	CHIP RES.(1608) 1/10W J 39k Ω or	RRXAJB5Z0393
	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R517	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R518	CHIP RES.(1608) 1/10W J 220k Ω or	RRXAJB5Z0224
	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R521	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R523	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R524	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R525	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R526	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R527	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102

Ref. No.	Description	Part No.
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R528	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R530	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R531	CARBON RES. 1/6W G 4.7k Ω or	RCX6GATZ0472
	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R532	CARBON RES. 1/6W G 1.5k Ω or	RCX6GATZ0152
	CARBON RES. 1/4W G 1.5k Ω	RCX4GATZ0152
R533	CARBON RES. 1/6W G 22k Ω or	RCX6GATZ0223
	CARBON RES. 1/4W G 22k Ω	RCX4GATZ0223
R534	CARBON RES. 1/6W G 470 Ω or	RCX6GATZ0471
	CARBON RES. 1/4W G 470 Ω	RCX4GATZ0471
R535	CARBON RES. 1/6W G 10k Ω or	RCX6GATZ0103
	CARBON RES. 1/4W G 10k Ω	RCX4GATZ0103
R536	CARBON RES. 1/6W G 3.6k Ω or	RCX6GATZ0362
	CARBON RES. 1/4W G 3.6k Ω	RCX4GATZ0362
R537	CHIP RES.(1608) 1/10W J 33k Ω or	RRXAJB5Z0333
	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R540	CHIP RES.(1608) 1/10W J 390k Ω or	RRXAJB5Z0394
	CHIP RES.(1608) 1/10W J 390k Ω	RRXAJR5Z0394
R541	CHIP RES.(1608) 1/10W J 390k Ω or	RRXAJB5Z0394
	CHIP RES.(1608) 1/10W J 390k Ω	RRXAJR5Z0394
R542	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R543	CHIP RES.(1608) 1/10W J 4.7k Ω or	RRXAJB5Z0472
	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R544	CHIP RES.(1608) 1/10W J 18k Ω or	RRXAJB5Z0183
	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R545	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R546	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R551	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R566	CARBON RES. 1/6W J 220 Ω or	RCX6JATZ0221
	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R567	CHIP RES.(1608) 1/10W J 3.9k Ω or	RRXAJB5Z0392
	CHIP RES.(1608) 1/10W J 3.9k Ω	RRXAJR5Z0392
R568	CARBON RES. 1/6W J 220 Ω or	RCX6JATZ0221
	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R570	CHIP RES.(1608) 1/10W J 3.9k Ω or	RRXAJB5Z0392
	CHIP RES.(1608) 1/10W J 3.9k Ω	RRXAJR5Z0392
R573	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R574	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R575	CHIP RES.(1608) 1/10W J 3.9k Ω or	RRXAJB5Z0392
	CHIP RES.(1608) 1/10W J 3.9k Ω	RRXAJR5Z0392
R576	CHIP RES.(1608) 1/10W J 3.9k Ω or	RRXAJB5Z0392
	CHIP RES.(1608) 1/10W J 3.9k Ω	RRXAJR5Z0392
R580	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R585	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R586	CHIP RES.(1608) 1/10W J 1.2k Ω or	RRXAJB5Z0122
	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJR5Z0122
R587	CHIP RES.(1608) 1/10W J 1.5k Ω or	RRXAJB5Z0152
	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R588	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R590	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R591	CHIP RES.(1608) 1/10W J 1.2k Ω or	RRXAJB5Z0122
	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJR5Z0122

Ref. No.	Description	Part No.
R593	CHIP RES.(1608) 1/10W J 1.8k Ω or	RRXAJB5Z0182
	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R594	CHIP RES.(1608) 1/10W J 1.8k Ω or	RRXAJB5Z0182
	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R606	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R607	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R610	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R612	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R615	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R618	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R620	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R626	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R640	CHIP RES.(1608) 1/10W J 3.9k Ω or	RRXAJB5Z0392
	CHIP RES.(1608) 1/10W J 3.9k Ω	RRXAJR5Z0392
R701	CHIP RES.(1608) 1/10W J 330 Ω or	RRXAJB5Z0331
	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R702	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R704	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R705	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R751	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R752	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R753	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R770	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R777	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R778	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1004	METAL OXIDE FILM RES. 2W J 82k Ω or	RN02JZLZ0823
	METAL OXIDE FILM RES. 2W J 82k Ω	RN02JZQZ0823
R1005	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1006	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1008	CARBON RES. 1/6W G 1k Ω or	RCX6GATZ0102
	CARBON RES. 1/4W G 1k Ω	RCX4GATZ0102
R1010	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1011	METAL OXIDE FILM RES. 1W J 0.68 Ω or	RN01R68DP003
	METAL OXIDE FILM RES. 1W J 0.68 Ω or	RN01R68ZU001
	METAL OXIDE FILM RES. 1W J 0.68 Ω	RN01R68KE009
R1025	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1026	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1029	CARBON RES. 1/6W J 150k Ω or	RCX6JATZ0154
	CARBON RES. 1/4W J 150k Ω	RCX4JATZ0154
R1032	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R1034	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1035	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1036	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1037	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1038	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104

Ref. No.	Description	Part No.
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1039	CARBON RES. 1/6W J 470k Ω or	RCX6JATZ0474
	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R1043	METAL OXIDE FILM RES. 1W J 2.7 Ω or	RN01JZLZ02R7
	METAL OXIDE FILM RES. 1W J 2.7 Ω	RN01JZQZ02R7
R1044	CHIP RES.(1608) 1/10W J 220k Ω or	RRXAJB5Z0224
	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R1059	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1068	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1076	CHIP RES.(1608) 1/10W J 22k Ω or	RRXAJB5Z0223
	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R1077	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1085	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFB5H75R0
	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFB5Z75R0
	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFR5H75R0
	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5Z75R0
R1086	CHIP RES.(1608) 1/10W J 2k Ω or	RRXAJB5Z0202
	CHIP RES.(1608) 1/10W J 2k Ω	RRXAJR5Z0202
R1087	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1090	CHIP RES.(1608) 1/10W J 56k Ω or	RRXAJB5Z0563
	CHIP RES.(1608) 1/10W J 56k Ω	RRXAJR5Z0563
R1091	CHIP RES.(1608) 1/10W J 33k Ω or	RRXAJB5Z0333
	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R1092	CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R1093	CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R1094	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R1095	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R1205	CHIP RES.(1608) 1/10W F 20k Ω or	RRXAFB5H2002
	CHIP RES.(1608) 1/10W F 20k Ω or	RRXAFB5Z2002
	CHIP RES.(1608) 1/10W F 20k Ω or	RRXAFR5H2002
	CHIP RES.(1608) 1/10W F 20k Ω	RRXAFR5Z2002
R1206	CHIP RES.(1608) 1/10W F 20k Ω or	RRXAFB5H2002
	CHIP RES.(1608) 1/10W F 20k Ω or	RRXAFB5Z2002
	CHIP RES.(1608) 1/10W F 20k Ω or	RRXAFR5H2002
	CHIP RES.(1608) 1/10W F 20k Ω	RRXAFR5Z2002
R1207	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R1208	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJB5Z0822
	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R1209	CHIP RES.(1608) 1/10W F 30k Ω or	RRXAFB5H3002
	CHIP RES.(1608) 1/10W F 30k Ω or	RRXAFB5Z3002
	CHIP RES.(1608) 1/10W F 30k Ω or	RRXAFR5H3002
	CHIP RES.(1608) 1/10W F 30k Ω	RRXAFR5Z3002
R1210	CHIP RES.(1608) 1/10W F 30k Ω or	RRXAFB5H3002
	CHIP RES.(1608) 1/10W F 30k Ω or	RRXAFB5Z3002
	CHIP RES.(1608) 1/10W F 30k Ω or	RRXAFR5H3002
	CHIP RES.(1608) 1/10W F 30k Ω	RRXAFR5Z3002
R1221	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJB5Z0104
	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1222	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJB5Z0104
	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1223	CHIP RES.(1608) 1/10W J 470 Ω or	RRXAJB5Z0471
	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1224	CHIP RES.(1608) 1/10W J 470 Ω or	RRXAJB5Z0471
	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1225	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1226	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102

Ref. No.	Description	Part No.
R1236	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1238	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1240	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJB5Z0104
	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1245	CARBON RES. 1/6W J 10 Ω or	RCX6JATZ0100
	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R1351	CHIP RES.(1608) 1/10W J 2k Ω or	RRXAJB5Z0202
	CHIP RES.(1608) 1/10W J 2k Ω	RRXAJR5Z0202
R1352	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1353	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1354	CHIP RES.(1608) 1/10W J 220 Ω or	RRXAJB5Z0221
	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R1355	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1356	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJB5Z0104
	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1392	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1396	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJB5Z0102
	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1397	CHIP RES.(1608) 1/10W J 100 Ω or	RRXAJB5Z0101
	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R1402	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1421	CHIP RES. 1/10W F 160 Ω or	RRXAFB5H1600
	CHIP RES. 1/10W F 160 Ω or	RRXAFB5Z1600
	CHIP RES. 1/10W F 160 Ω or	RRXAFR5H1600
	CHIP RES. 1/10W F 160 Ω	RRXAFR5Z1600
R1422	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1441	CHIP RES. 1/10W F 160 Ω or	RRXAFB5H1600
	CHIP RES. 1/10W F 160 Ω or	RRXAFB5Z1600
	CHIP RES. 1/10W F 160 Ω or	RRXAFR5H1600
	CHIP RES. 1/10W F 160 Ω	RRXAFR5Z1600
R1442	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1443	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1461	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFB5H75R0
	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFB5Z75R0
	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFR5H75R0
	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5Z75R0
R1462	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1481	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFB5H75R0
	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFB5Z75R0
	CHIP RES.(1608) 1/10W F 75 Ω or	RRXAFR5H75R0
	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5Z75R0
R1482	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJB5Z0750
	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1490	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1521	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJB5Z0222
	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R2001	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k ΩF	RRXAJR5Z0103
R2002	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103

Ref. No.	Description	Part No.
R2003	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2005	CHIP RES.(1608) 1/10W J 6.8k Ω or	RRXAJB5Z0682
	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R2006	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2028	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2031	CHIP RES.(1608) 1/10W J 22k Ω or	RRXAJB5Z0223
	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R2051	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R2052	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R2053	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2054	CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R2055	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2056	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJB5Z0103
	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2081	PCB JUMPER D0.6-P5.0	JW5.0T
R2086	CHIP RES.(1608) 1/10W J 5.6k Ω or	RRXAJB5Z0562
	CHIP RES.(1608) 1/10W J 5.6k Ω	RRXAJR5Z0562
	SWITCHES	
SW501	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW502	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW505	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW508	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW509	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW511	LEAF SWITCH MXS01830MVP0	SSC0101MCE03
SW512	ROTARY MODE SWITCH SSS-53MD	SSR0106KB003
SW513	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW514	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW515	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW516	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW2002	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW2003	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW2005	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW2006	TACT SWITCH KSM0614B or	SST0101HH013

Ref. No.	Description	Part No.
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
	MISCELLANEOUS	
2B11	HEAD SHIELD H9600UD	0VM306770
2B15	BUSH, LED(F) H3700UD	0VM409508
2L062	SCREW, B-TIGHT M3X8 BIND HEAD +	GBKB3080
2L082	SCREW, S-TIGHT M3X5 BIND HEAD +	GBKS3050
A4	JACK BOARD(TUNER) H9600UD	0VM306675
A5	JACK BOARD(RCA) H9602UD	0VM306950
AC1001⚠	AC CORD PB8K9F9110A-05A or	WAC0172LW012
⚠	AC CORD PB8B2F9110A-05A or	WAC0172LW013
⚠	AC CORD A0A0280-018 or	WAC0172LTE07
⚠	AC CORD A0A0280-019 or	WAC0172LTE08
⚠	AC CORD ADP201P	WAC0172ADE03
F1001⚠	FUSE SIC 1A 250V U/C T or	PAGG20CW3102
⚠	FUSE 1A/250V	PAGG20CAG102
FH1001	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER DFH-001	XH01Z00RP001
FH1002	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER DFH-001	XH01Z00RP001
JC01	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZB5Z0000
	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
JK751	RCA JACK MSP-283V-B-324	JXRL040LY006
JK752	RCA JACK MSP-293V3-324	JYRL060LY003
JK753	RCA JACK(YELLOW) MSP-281V4-B	JXRL010LY003
JK754	RCA JACK(WHITE) MSP-281V1-B	JXRL010LY005
JK755	RCA JACK(RED) MSP-281V3-A	JYRL010LY002
JK756	RCA JACK MSP-282V-12 PBSN	JXRL030LY011
JK1202	RCA JACK(BLACK) MSP-281V2-B	JXRL010LY062
JK1401	S TYPE JACK MDC-050V-2.4	JXEL040LY001
JK1403	RCA JACK MSP-283V-B-752 NI LF	JXRL040LY099
RM2001	REMOTE RECEIVER PIC-37042LU or	USESJRSKK033
	REMOTE RECEIVER MIM-93M6DKF	USESJRSUNT01
T001⚠	SWITCHING TRANSFOMER CSA-SW0412A or	LTT00CPSA156
⚠	SWITCHING TRANSFOMER BCK-28-0417	LTT00CPXB009
TP301	PCB JUMPER D0.6-P15.5	JW15.5T
TP302	PCB JUMPER D0.6-P15.0	JW15.0T
TP502	PCB JUMPER D0.6-P5.0	JW5.0T
TP505	PCB JUMPER D0.6-P5.0	JW5.0T
TP506	PCB JUMPER D0.6-P8.0	JW8.0T
TP507	PCB JUMPER D0.6-P7.0	JW7.0T
TP513	PCB JUMPER D0.6-P7.5	JW7.5T
TP751	PCB JUMPER D0.6-P23.5	JW23.5T
TP753	PCB JUMPER D0.6-P25.5	JW25.5T
TP754	PCB JUMPER D0.6-P22.5	JW22.5T
TU701	TUNER UNIT VH025AFE or	UTUNNTUSP026
	TUNER UNIT TMZH2X022A	UTUNNTUAL039
VR501	CARBON P.O.T. 100k Ω B	VRCB104HH014
W002	FFC CABLE, 26P FFC/P1.00/230	WX1H9600-002
W006	FFC CABLE, 16P FFC/P1.00/195	WX1H9600-006
X301	X'TAL 3.579545MHz(20PPM) or	FXC355LLN003
	X'TAL 3.579545MHz(20PPM) or	FXC355LCHE01
	X'TAL 3.579545MHz(20PPM)	FXC355LDS001
X502	X'TAL 32.768kHz(20PPM) or	FXC323LQUA01
	X'TAL 32.768kHz(20PPM) or	FXC323LCHE01
	X'TAL 32.768kHz(20PPM)	FXC323LDS002

DVD OPEN/CLOSE CBA

Ref. No.	Description	Part No.
	DVD OPEN/CLOSE CBA (MCV-C) Consists on the following:	----------
	SWITCHES	
SW2001	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A or	SST0101AL041
	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
	MISCELLANEOUS	
W011	PARALLEL WIRE, 2P AWG26#2651/P2.0/125	WX1H9600-011

SENSOR CBA

Ref. No.	Description	Part No.
	SENSOR CBA Consists on the following:	0VSA14947
	TRANSISTORS	
Q503	PHOTO TRANSISTOR PT204-6B-12 or	NPWZT2046B12
	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F
Q504	PHOTO TRANSISTOR PT204-6B-12 or	NPWZT2046B12
	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F

DECK MECHANISM SECTION

DVD PLAYER & VIDEO CASSETTE RECORDER

SRD4900

Sec. 2: Deck Mechanism Section

- **Standard Maintenance**
- **Alignment for Mechanism**
- **Disassembly/Assembly of Mechanism**
- **Alignment Procedures of Mechanism**
- **Deck Exploded Views**
- **Deck Parts List**

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STANDARD MAINTENANCE

Service Schedule of Components

This maintenance chart shows you the standard of replacement and cleaning time for each part.
Because those may replace depending on environment and purpose for use, use the chart for reference.

H: Hours ○: Cleaning ●: Replace

Deck		Periodic Service Schedule			
Ref.No.	**Part Name**	**1,000 H**	**2,000 H**	**3,000 H**	**4,000 H**
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B587	Tension Lever Assembly		●		●
B31	ACE Head Assembly			●	
B573, B574	Reel (SP)(D2), Reel (TU)(D2)			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
B73	FE Head			●	
B133, B134	Idler Gear, Idler Arm		●		●
B410	Pinch Arm(A) Assembly		●		●
B414	M Brake (SP) Assembly		●		●
B416	M Brake (TU) Assembly		●		●
B525	LDG Belt		●		●
B569 (2 head only)	Cam Holder		●		●
B593 (4 head, 4 head HiFi only)	Cam Holder Assembly		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / ACE Head / FE Head) using 90% Isopropyl Alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

Cleaning

Cleaning of Video Head

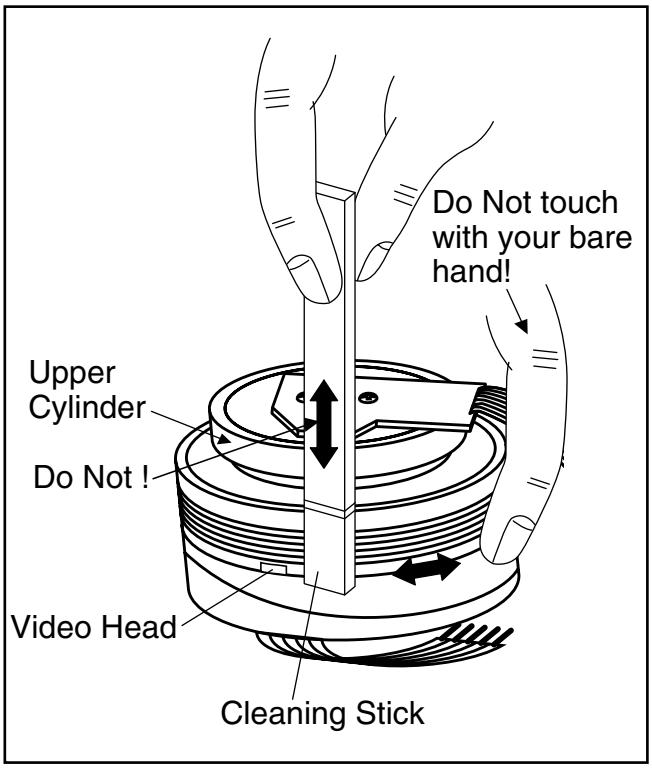
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of ACE Head

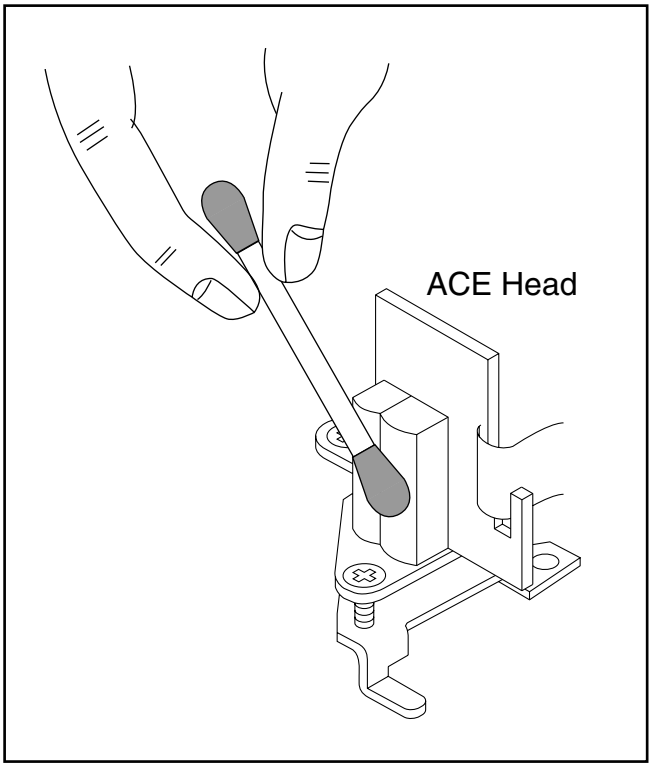
Clean the head with a cotton swab.

Procedure

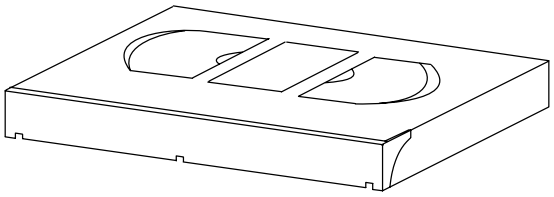
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the ACE Head. Be careful not to damage the upper drum and other tape running parts.

Notes:

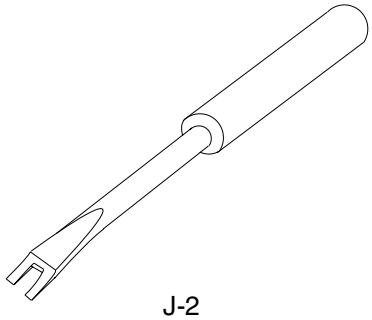
1. Avoid cleaning the ACE Head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



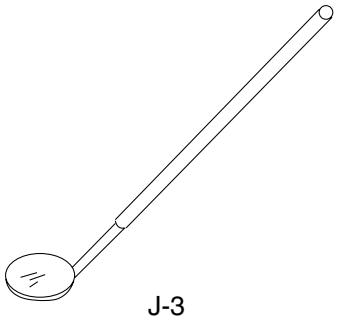
SERVICE FIXTURE AND TOOLS



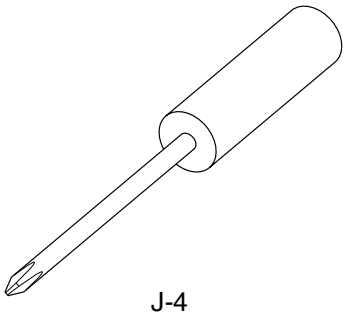
J-1-1, J-1-2



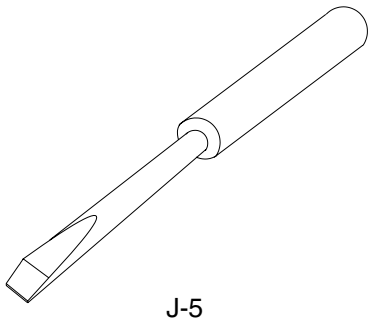
J-2



J-3



J-4



J-5

Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL8A	Head Adjustment of ACE Head
J-1-2	Alignment Tape	FL8N (2 Head only) FL8NW (4 Head only)	Azimuth and X Value Adjustment of ACE Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj. Screwdriver	Available Locally	Guide Roller
J-3	Mirror	Available Locally	Tape Transportation Check
J-4	Azimuth Adj. Screwdriver +	Available Locally	ACE Head Height
J-5	Flat Screwdriver -	Available Locally	X Value

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
5. Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.

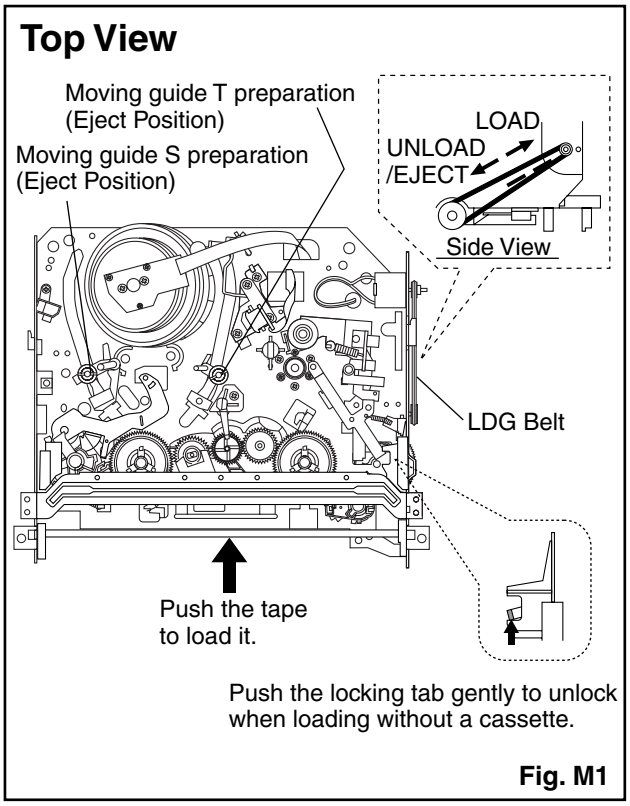


Fig. M1

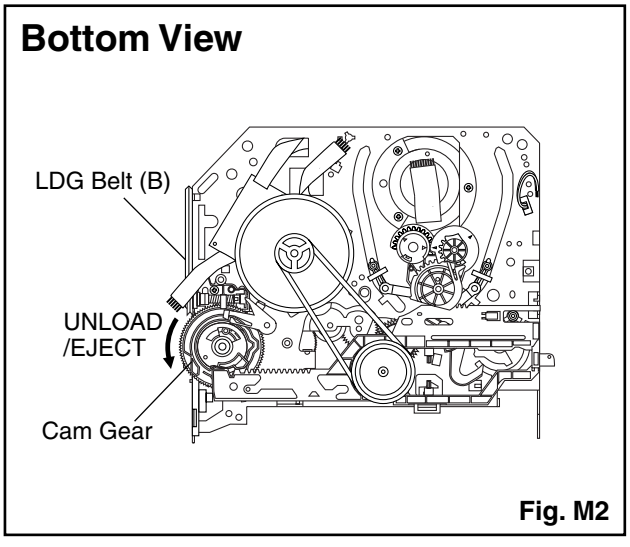


Fig. M2

1. Tape Interchangeability Alignment

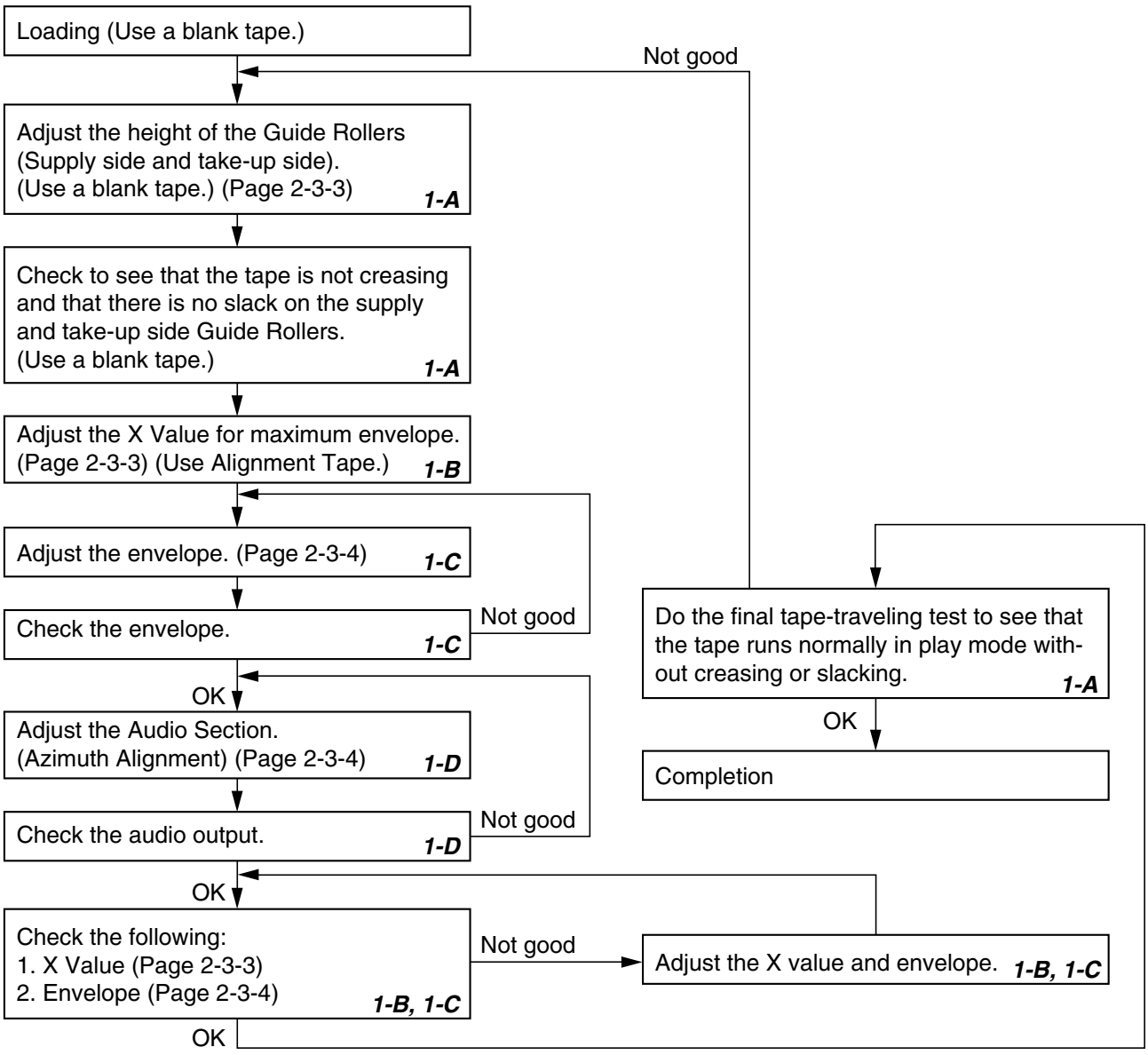
Note:
To do these alignment procedures, make sure that the Tracking Control Circuit is set to the preset position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

Dual Trace Oscilloscope
VHS Alignment Tape (FL8NW)
Guide Roller Adj. Screwdriver
Flat Screwdriver (Purchase Locally)

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling


Loading (Use a blank tape.)
Not good
Adjust the height of the Guide Rollers (Supply side and take-up side). (Use a blank tape.) (Page 2-3-3) 1-A
Check to see that the tape is not creasing and that there is no slack on the supply and take-up side Guide Rollers. (Use a blank tape.) 1-A
Adjust the X Value for maximum envelope. (Page 2-3-3) (Use Alignment Tape.) 1-B
Adjust the envelope. (Page 2-3-4) 1-C
Check the envelope. 1-C
Not good
OK
Adjust the Audio Section. (Azimuth Alignment) (Page 2-3-4) 1-D
Check the audio output. 1-D
Not good
OK
Check the following:
1. X Value (Page 2-3-3)
2. Envelope (Page 2-3-4) 1-B, 1-C
Not good
Adjust the X value and envelope. 1-B, 1-C
OK
Do the final tape-traveling test to see that the tape runs normally in play mode without creasing or slacking. 1-A
OK
Completion

1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Playback a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig. M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)

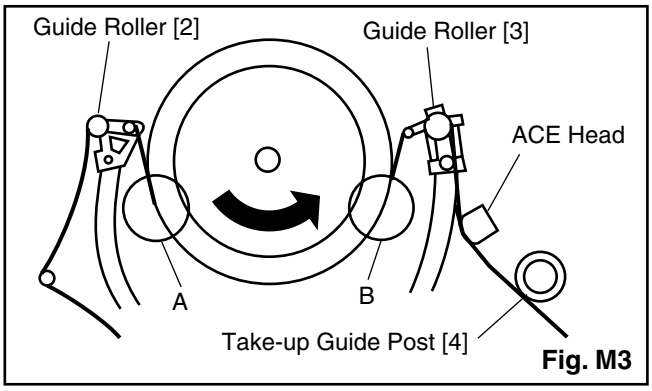


Fig. M3

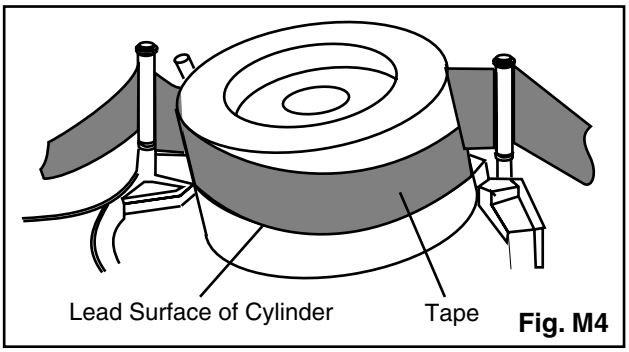


Fig. M4

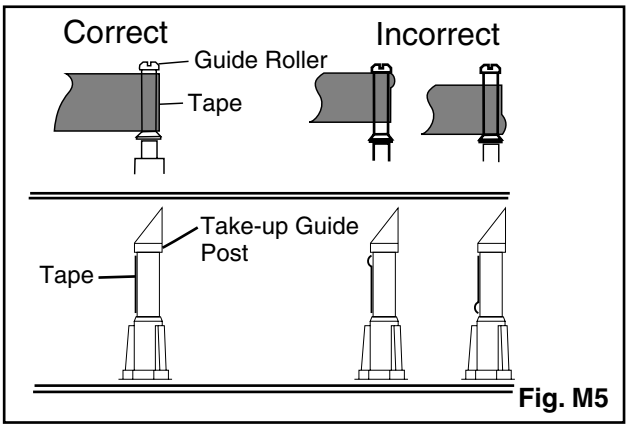


Fig. M5

3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and ACE Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. M6)

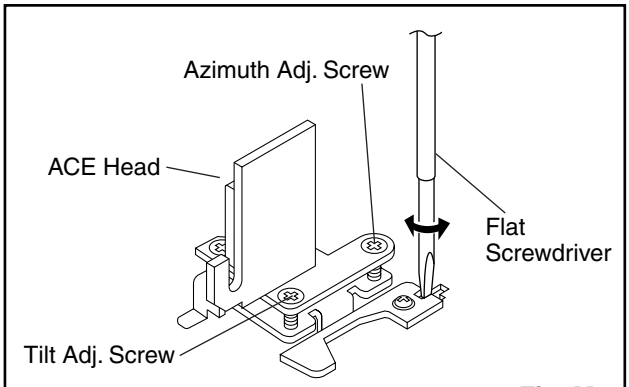


Fig. M6

1-B. X Value Alignment

Purpose:

To obtain maximum PB FM envelope signal at the preset position of the Tracking Control Circuit, align the Horizontal Position of the ACE Head.

Symptom of Misalignment:

If the Horizontal Position of the ACE Head is not properly aligned, maximum PB FM envelope cannot be obtained at the preset position of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) and TP513 (CTL) on the Main CBA. Use TP302 (RF-SW) as a trigger.
2. Playback the Gray Scale of the Alignment Tape (FL8NW) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the preset position by pressing CH UP button on the remote control unit then “PLAY” button on the unit. (Refer to note on bottom of page 2-3-4.)
4. Use the Flat Screwdriver so that the PB FM signal at TP301 (C-PB) is maximum. (Fig. M6)

5. To shift the CTL waveform, press CH UP or CH DOWN button on the remote control unit. Then make sure that the maximum output position of PB FM envelope signal become within ±2ms from preset position.

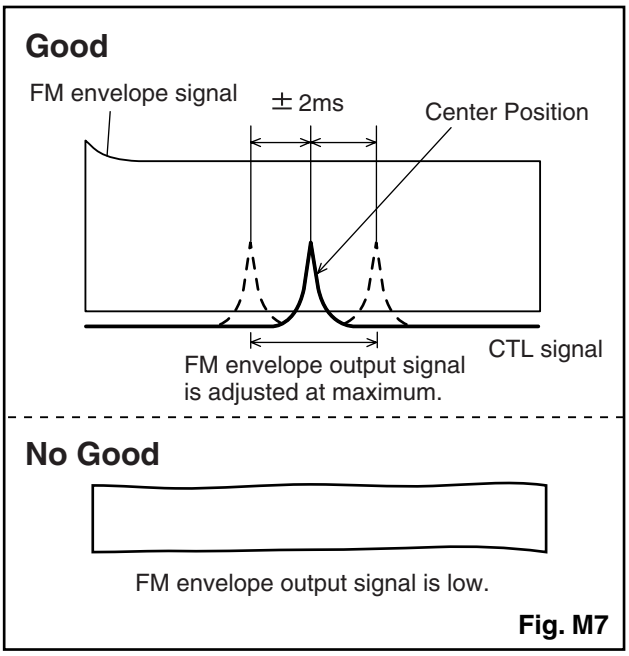


Fig. M7

6. Set the Tracking Control Circuit to the preset position by pressing CH UP button on the remote control unit. and then “PLAY” button.

1-C. Checking/Adjustment of Envelope Waveform

Purpose:

To achieve a satisfactory picture, adjust the PB FM envelope becomes as flat as possible.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) on the Main CBA. Use TP302 (RF-SW) as a trigger.
2. Playback the Gray Scale on the Alignment Tape (FL8NW). Set the Tracking Control Circuit to the preset position by pressing CH UP button and then “PLAY” button on the unit. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
3. If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
4. If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
5. When Guide Rollers [2] and [3] (Refer to Fig. M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.

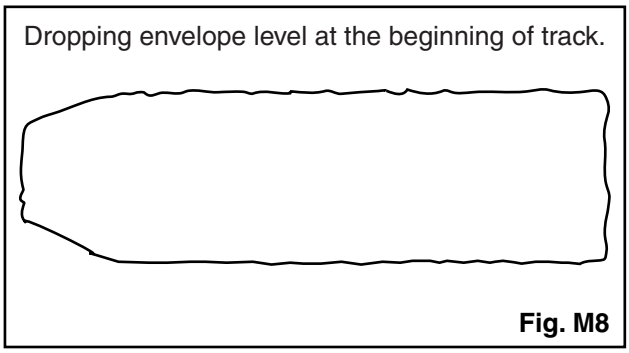


Fig. M8

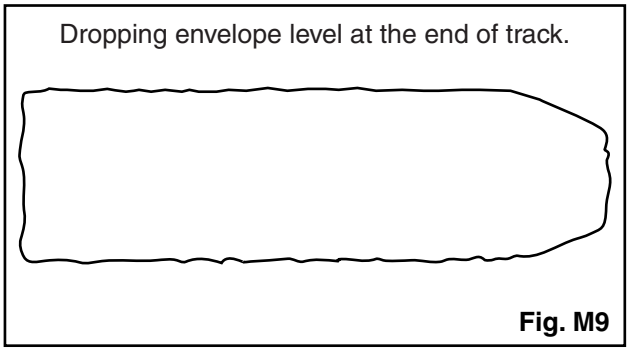


Fig. M9

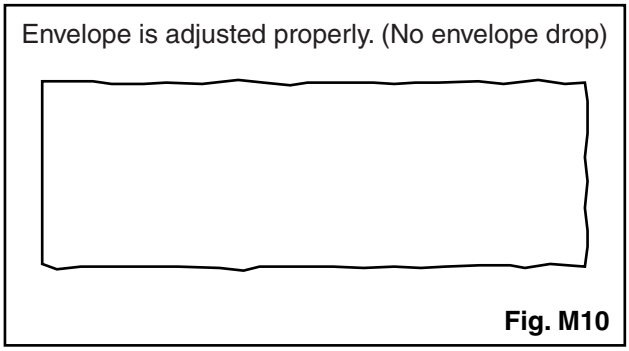


Fig. M10

Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the CH UP or DOWN buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes CH UP button to achieve 1/2 level of envelope should match the number of pushes CH DOWN button from center. If required, redo the “X Value Alignment.”

1-D. Azimuth Alignment of Audio/Control/ Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/ Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Playback the alignment tape (FL8NW) and confirm that the audio signal output level is 8kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Note: Upon completion of the adjustment of Azimuth Adj. Screw, check the X Value by pushing the CH UP or DOWN buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes CH UP button to achieve 1/2 level of envelope should match the number of pushes CH DOWN button from center. If required, redo the “X Value Alignment.”

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-5-1 of Main Section.)
All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [41] and [42] in Fig. DM1 on page 2-4-3. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder A	T	DM3	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	DM4		
[3]	[2]	Slider (SP)	T	DM5	(S-1A), *(L-1)	
[4]	[2]	Slider (TU)	T	DM5	*(L-2)	
[5]	[4]	Lock Lever	T	DM5	*(L-3), *(P-1)	
[6]	[2]	Cassette Plate	T	DM5		
[7]	[7]	Cylinder Assembly	T	DM1, DM6	Desolder, 3(S-2)	
[8]	[8]	Loading Motor Assembly	T	DM1, DM7	Desolder, LDG Belt, 2(S-3)	
[9]	[9]	ACE Head Assembly	T	DM1, DM7	(S-4)	
[10]	[2]	Tape Guide Arm Assembly	T	DM1, DM8-1	*(P-2)	
[11]	[10]	C Door Opener	T	DM1, DM8-1	(S-4A), *(L-4)	
[12]	[11]	Pinch Arm (B)	T	DM1, DM8-1, DM8-2	*(P-3)	
[13]	[12]	Pinch Arm (A) Assembly	T	DM1, DM8-1, DM8-2		
[14]	[14]	FE Head	T	DM1, DM9	(S-5)	
[15]	[15]	Prism	T	DM1, DM9	(S-6)	
[16]	[2],[15]	Sensor Gear	T	DM1, DM9		
[17]	[2]	Slider Shaft	T	DM10	*(L-5)	
[18]	[17]	C Drive Lever (SP)	T	DM10		
[19]	[17]	C Drive Lever (TU)	T	DM10	(S-7), *(P-4)	
[20]	[7],[8], [10]	Capstan Motor	B	DM2, DM11	3(S-8), Cap Belt	
[21]	[21]	Clutch Assembly	B	DM2, DM12	(C-1)	
[22]	[22]	Cam Holder Assembly	B	DM2, DM12	*(L-6)	
[23]	[23]	Cam Gear (B)	B	DM2, DM12	(C-2), *(P-5)	
[24]	[24]	Mode Gear	B	DM2, DM13-1	(C-3)	
[25]	[21],[23], [24]	Mode Lever	B	DM2, DM13-1, DM13-2	(C-4), *(L-8)	
[26]	[22]	Worm Holder	B	DM2, DM13-1	(S-9), *(L-9), *(L-10)	
[27]	[26]	Pulley Assembly	B	DM2, DM13-1		
[28]	[25],[26]	Cam Gear (A)	B	DM2, DM13-1, DM13-2		

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[29]	[25]	Idler Gear	B	DM1, DM14		
[30]	[29]	Idler Arm	B	DM1, DM14	*(L-11)	
[31]	[25]	BT Arm	B	DM2, DM14	*(P-6)	
[32]	[25]	Loading Arm (SP) Assembly	B	DM2, DM14		(+)Refer to Alignment Sec.Page 2-5-1
[33]	[32]	Loading Arm (TU) Assembly	B	DM2, DM14		(+)Refer to Alignment Sec.Page 2-5-1
[34]	[2],[25]	M Brake (TU) Assembly	T	DM1, DM15	*(P-7), Brake Belt	
[35]	[2],[25]	M Brake (SP) Assembly	T	DM1, DM15	*(P-8)	
[36]	[35]	Tension Lever Assembly	T	DM1, DM15		
[37]	[36]	T Lever Holder	T	DM15	*(L-12)	
[38]	[34]	Reel (TU)(D2)	T	DM1, DM15		
[39]	[38]	M Gear	T	DM1, DM15		
[40]	[36]	Reel (SP)(D2)	T	DM1, DM15		
[41]	[32],[36]	Moving Guide S Preparation	T	DM1, DM16	(S-11), Slide Plate	
[42]	[33]	Moving Guide T Preparation	T	DM1, DM16		
[43]	[19]	TG Post Assembly	T	DM1, DM16	*(L-13)	
[44]	[28]	Rack Assembly	R	DM17		(+)Refer to Alignment Sec.Page 2-5-1
[45]	[44]	F Door Opener	R	DM17		
[46]	[46]	Cleaner Assembly	T	DM1, DM6		
[47]	[46]	CL Post	T	DM6	*(L-14)	
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)	↓ (6)	↓ (7)

(1): Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as identification (location) No. of parts in the figures.

(2): Indicates the part to start disassembling with in order to disassemble the part in column (1).

(3): Name of the part

(4): Location of the part: T=Top B=Bottom R=Right L=Left

(5): Figure Number

(6): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

(7): Adjustment Information for Installation
(+):Refer to Deck Exploded Views for lubrication.

Top View

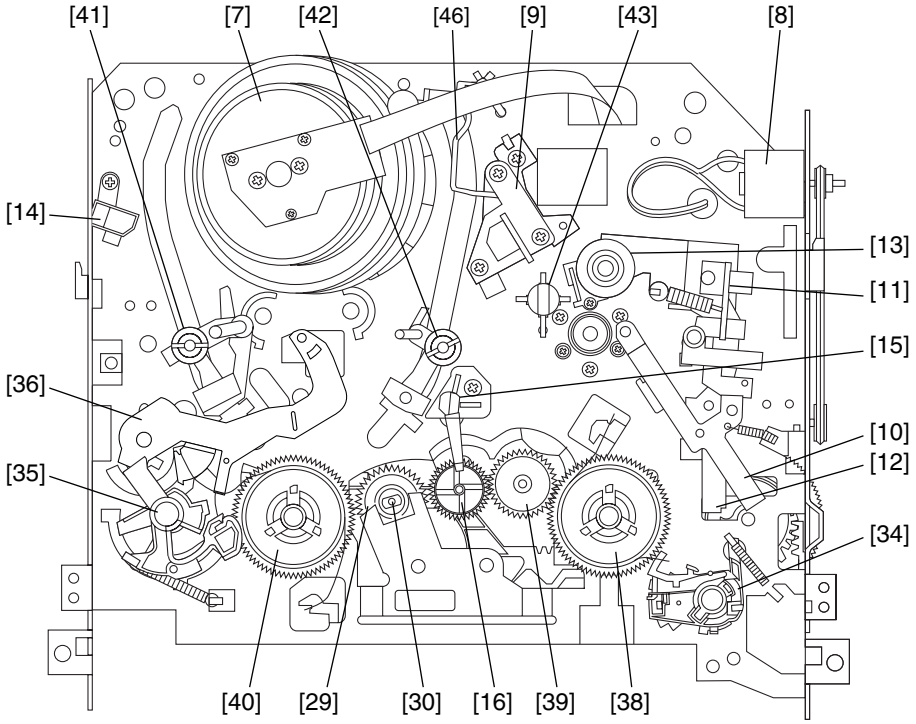


Fig. DM1

Bottom View

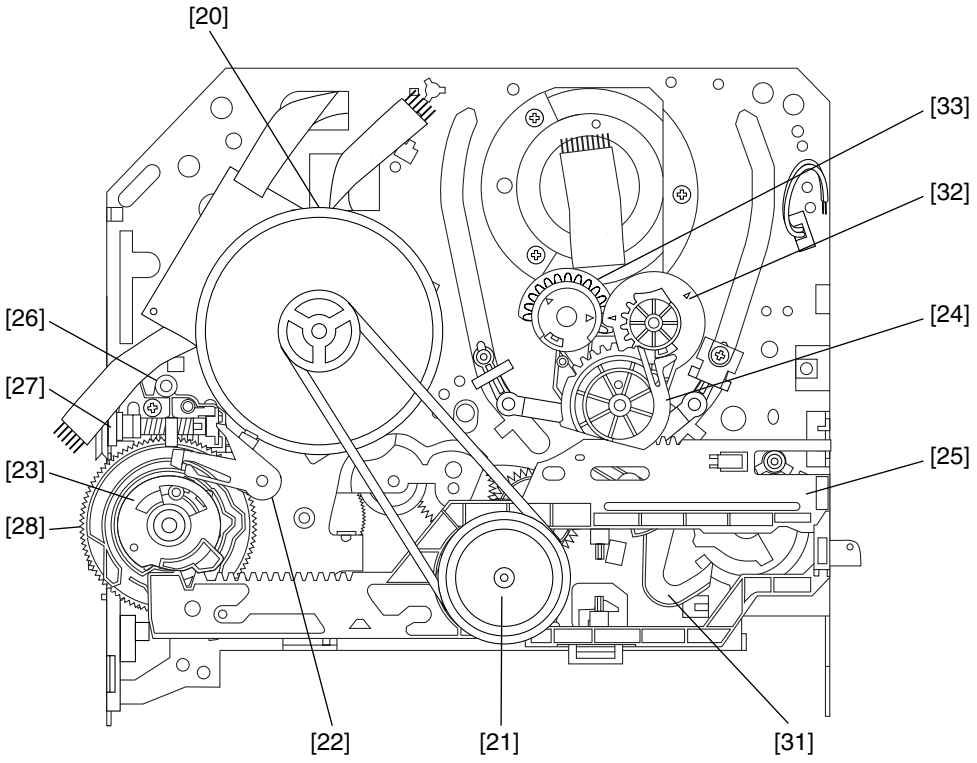


Fig. DM2

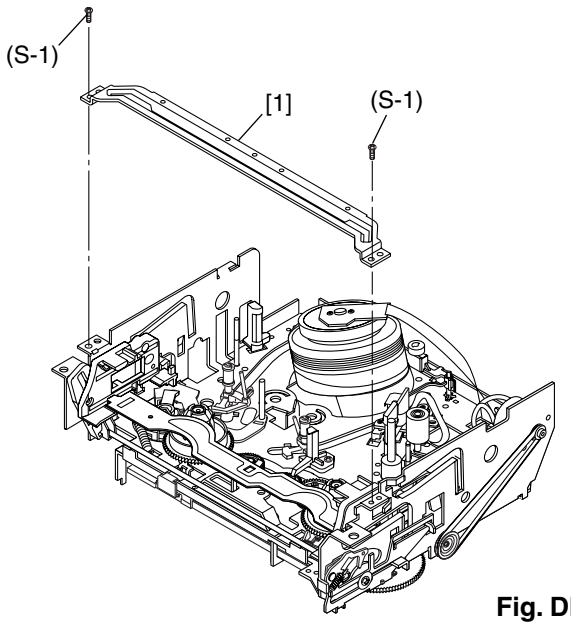
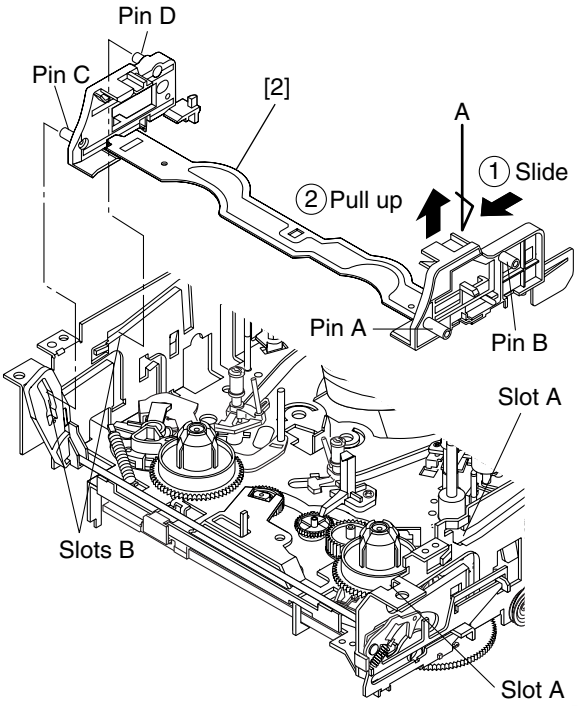


Fig. DM3



First, while pushing the locking tab as shown at right, slide and pull up the right side on [2] to release Pin A and Pin B from the slots A.
Then, remove Pin C and Pin D on [2] from the slots B as shown.

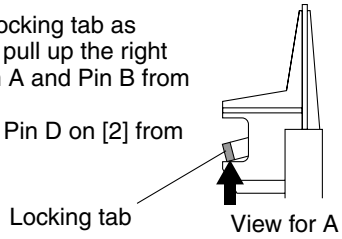
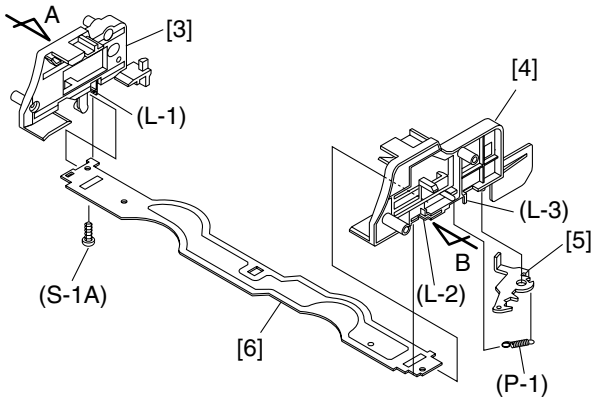
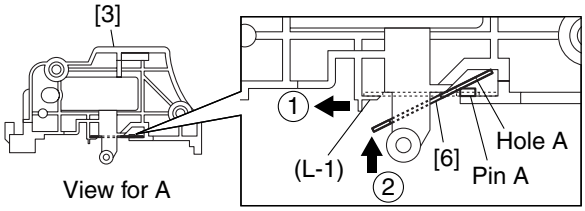


Fig. DM4



Installation of [3] and [6]

First, insert [6] diagonally in [3] as shown below. Then, install [6] in [3] while pushing (L-1) in a direction of arrow. After installing [6] in [3], confirm that pin A of [3] enters hole A of [6] properly.



Installation of [4] and [6]

Install [6] in [4] while pulling (L-2) in a direction of arrow. After installing [6] in [4], confirm that pin B of [4] enters hole B of [6] properly.

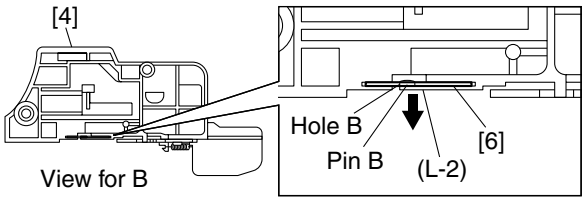


Fig. DM5

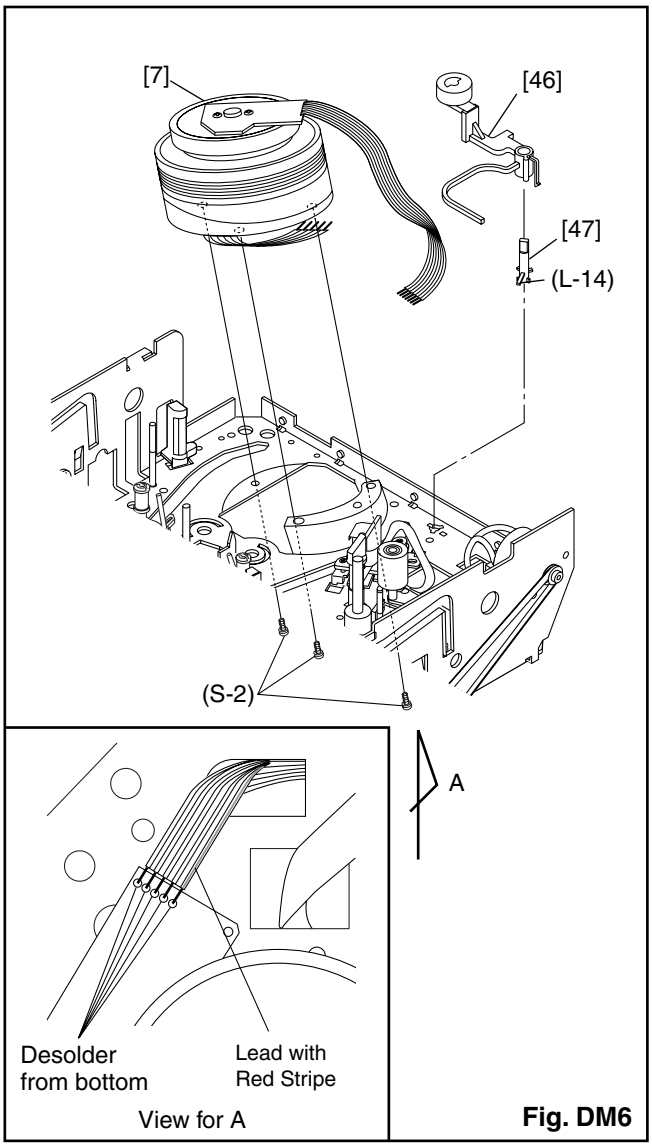


Fig. DM6

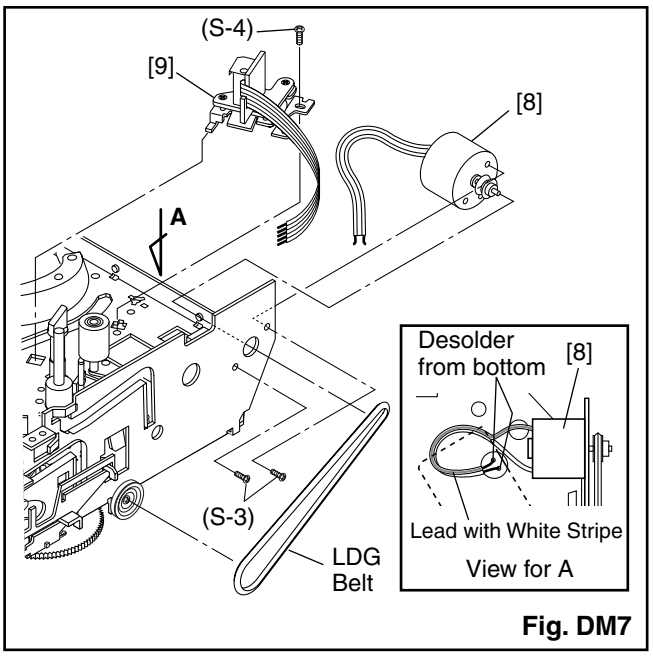


Fig. DM7

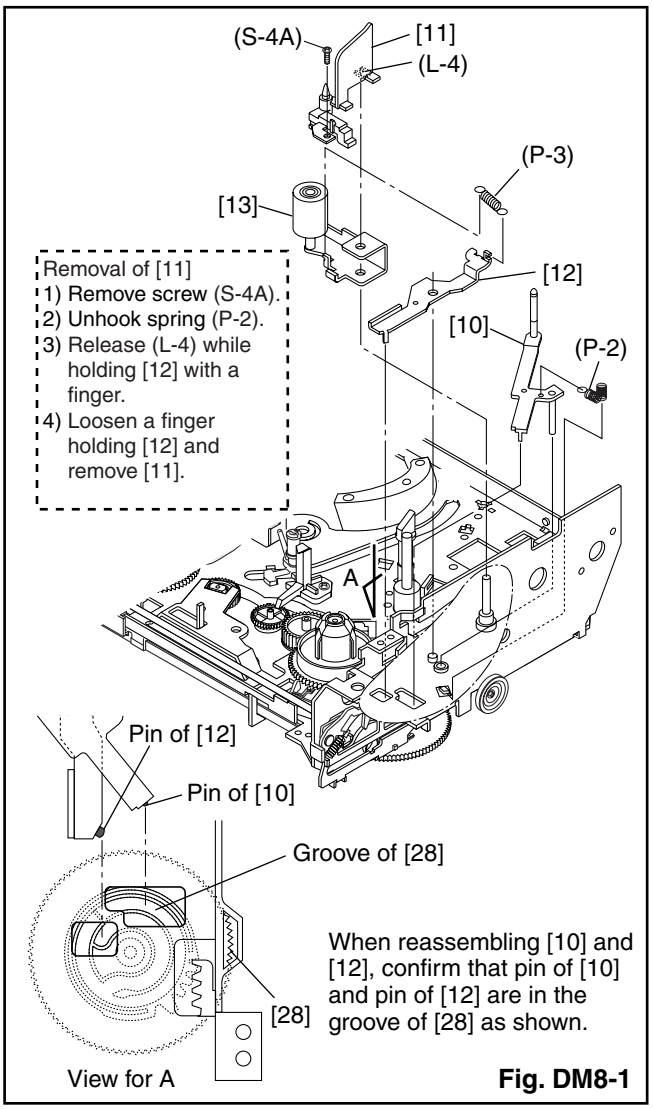


Fig. DM8-1

Installation of [13] and [12]

Hook spring (P-3) up to [12] and [13], then install then to the specified position so that [12] will be floated slightly while holding [12] and [13]. (Refer to Fig. A.)

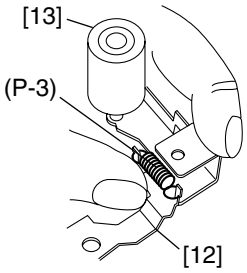


Fig. A

Install pin of [12] in groove of [28]. (Refer to Fig. B.)

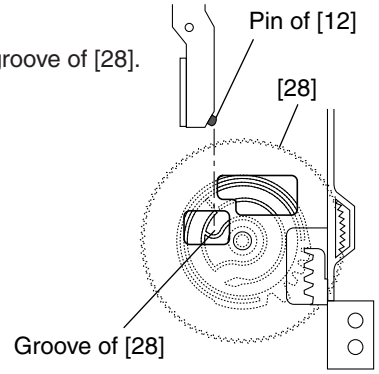


Fig. B (Top view)

Hold [12] and [13] till groove of pin of chassis looks and fit [13] in notch of chassis. Then, turn a few [13] while holding [12]. (Refer to Fig. C.)

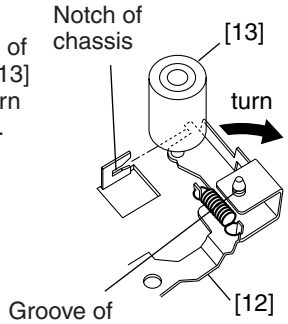


Fig. C

Install [11] and [10] while holding [12]. (Refer to Fig. DM8-1.)

Fig. DM8-2

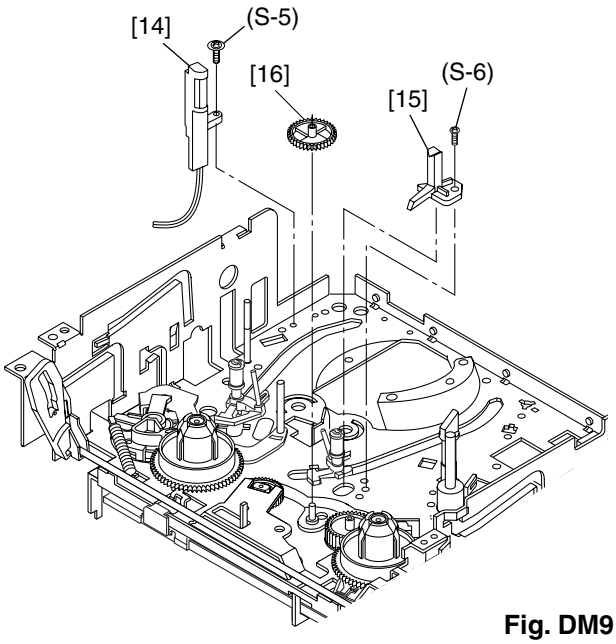


Fig. DM9

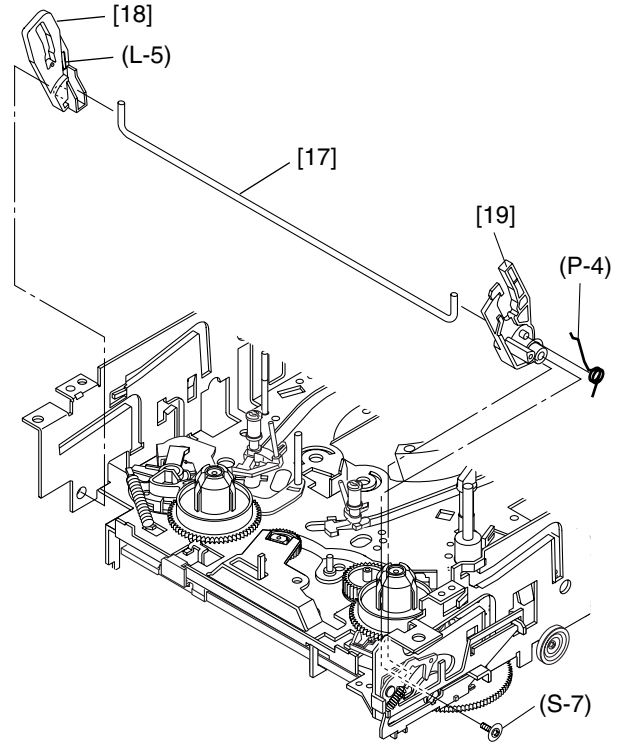
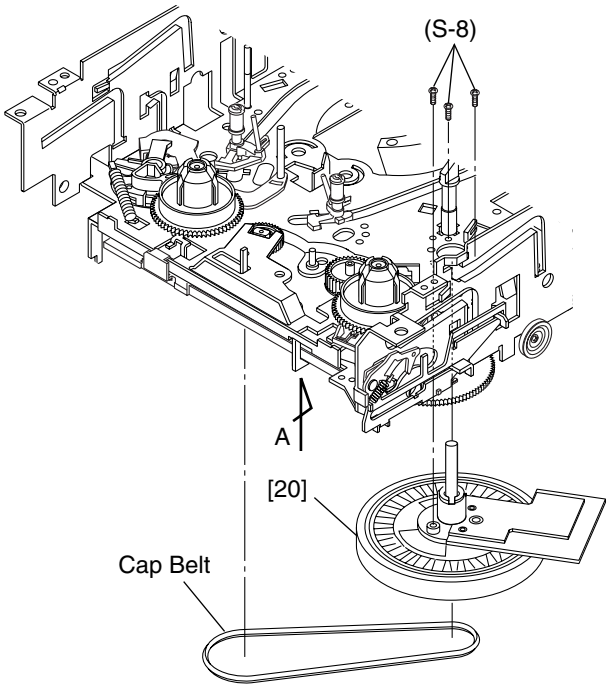
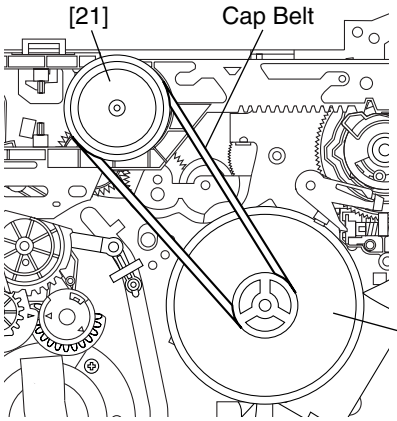


Fig. DM10

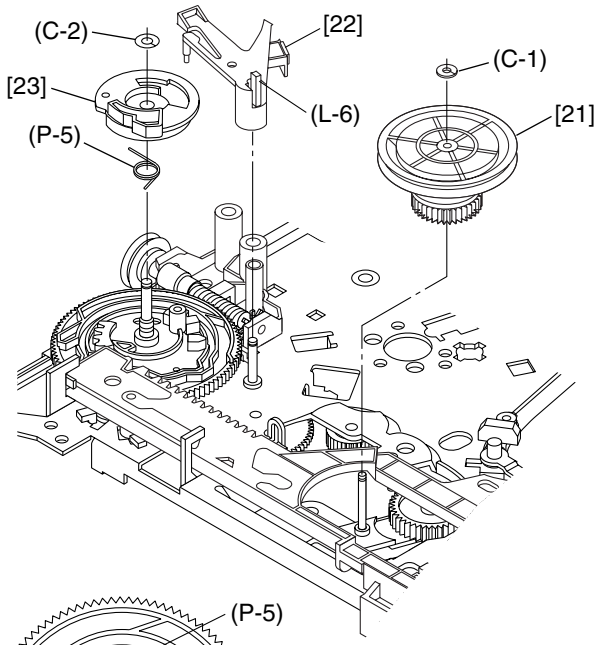


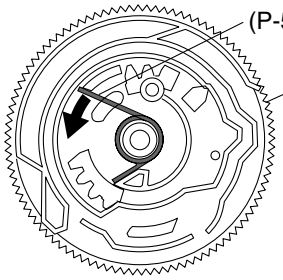
Installation position of Cap Belt



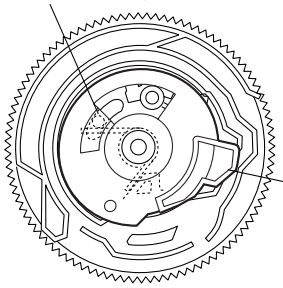
View for A

Fig. DM11



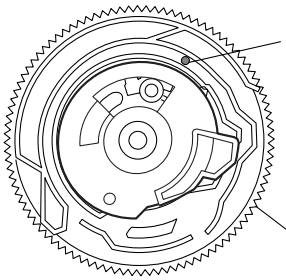


Pin on bottom of [23]



Top View

When installing [23], install the spring (P-5) to [28] as shown in the left figure, and then install [23] while pressing the spring (P-5) to the direction of the arrow in the left figure and confirming that the position of the spring (P-5) is placed as shown in the left figure.



Position of pin on [22]

Fig. DM12

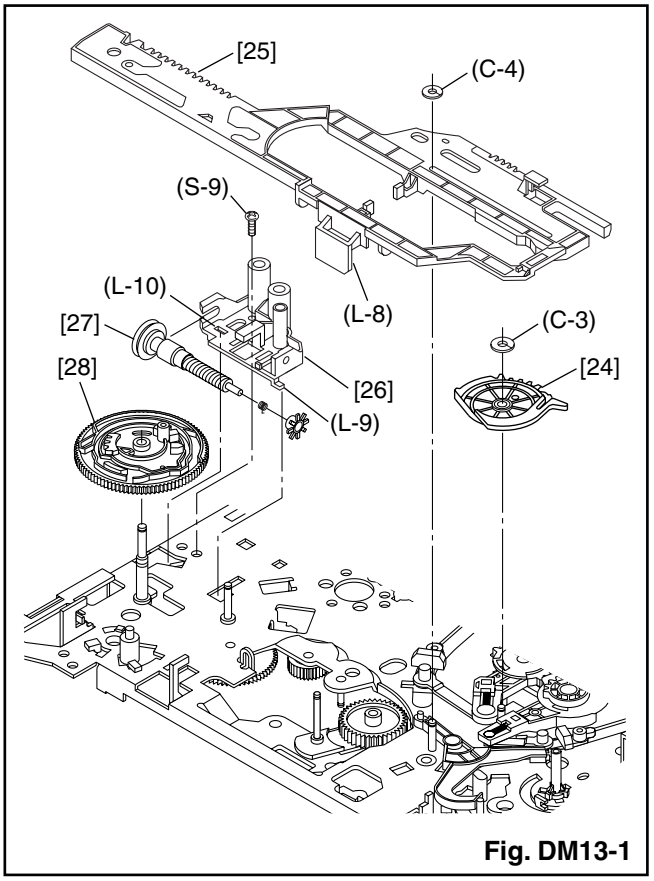
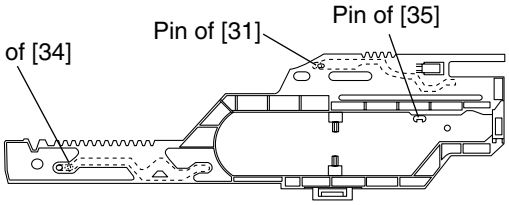
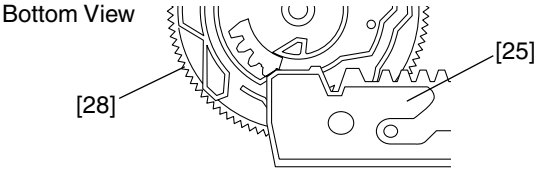


Fig. DM13-1

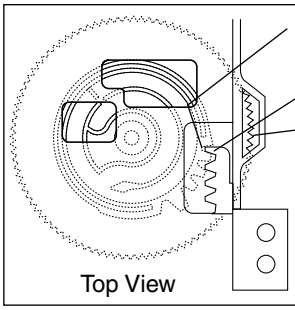
Installation of [25]

Position of Mode Lever when installed





Align [25] and [28] as shown.



When reassembling [28], align the first groove on [28] to the first tooth on [44] as shown.

Fig. DM13-2

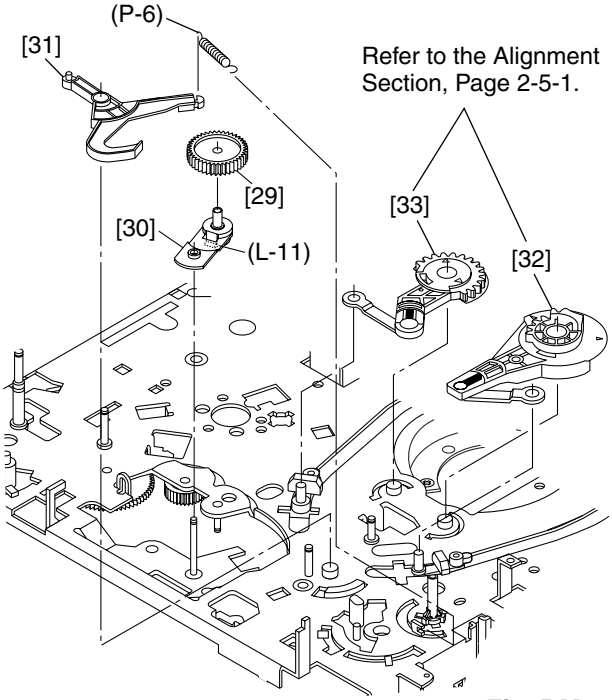


Fig. DM14

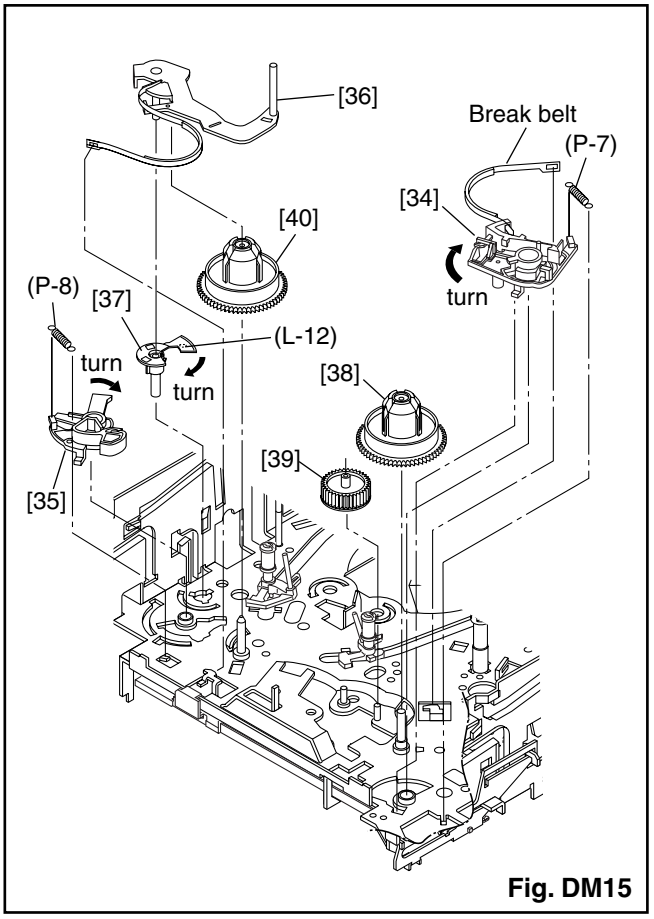


Fig. DM15

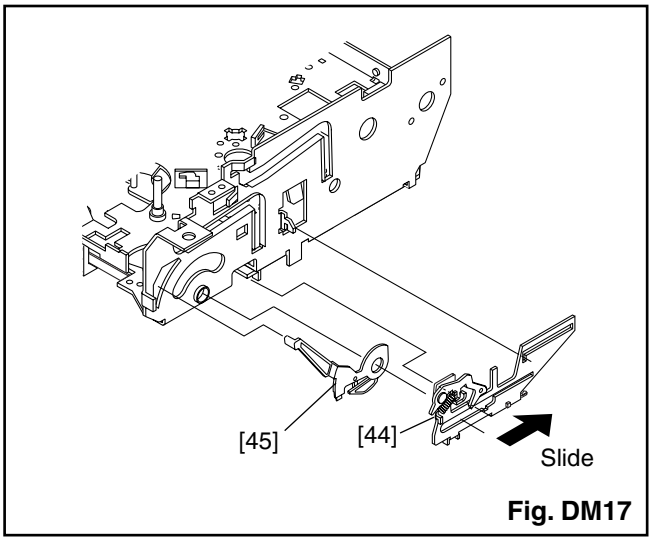


Fig. DM17

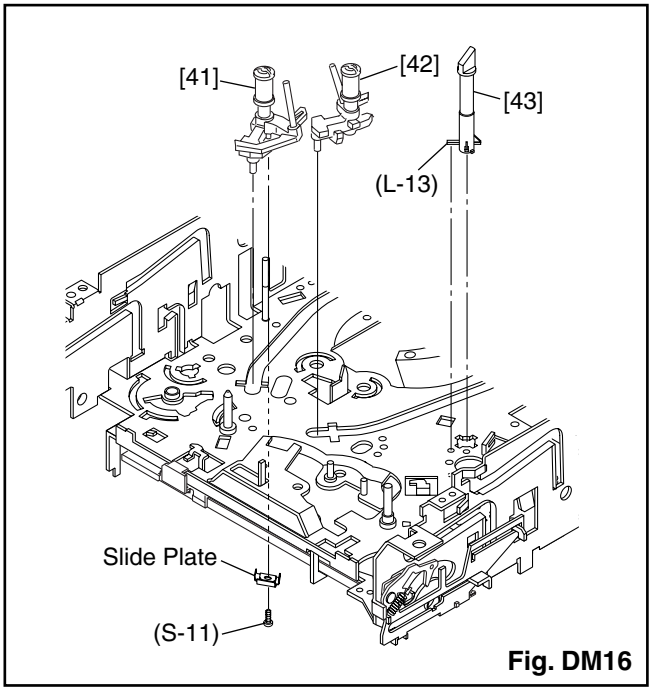


Fig. DM16

ALIGNMENT PROCEDURES OF MECHANISM

The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position

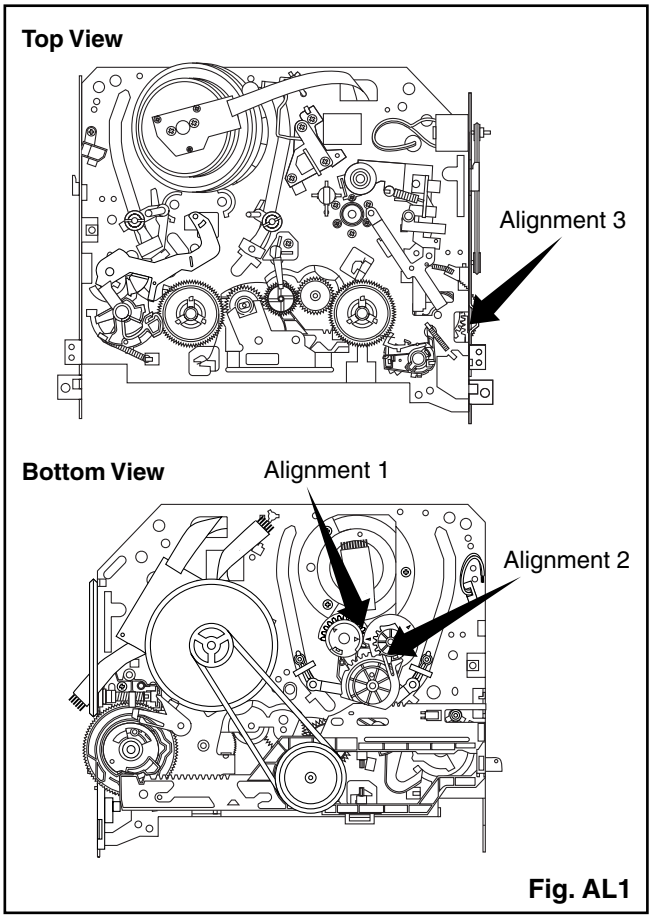


Fig. AL1

Alignment 1

Loading Arm (SP) and (TU) Assembly

Install Loading Arm (SP) and (TU) Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.

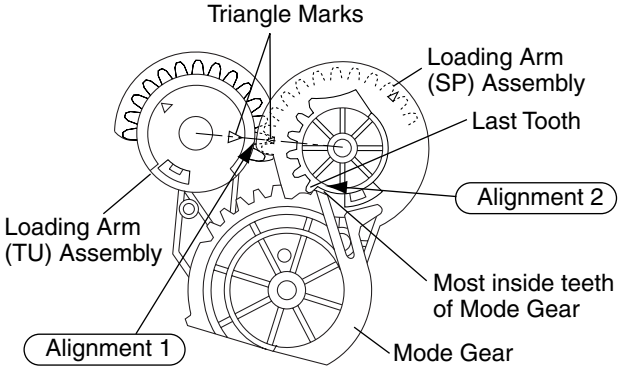


Fig. AL2

Alignment 3

Cam Gear (A), Rack Assembly

Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) as shown in Fig. AL3.

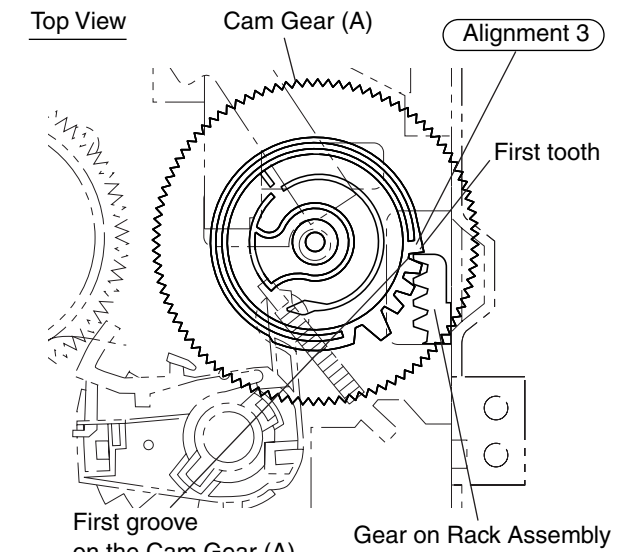
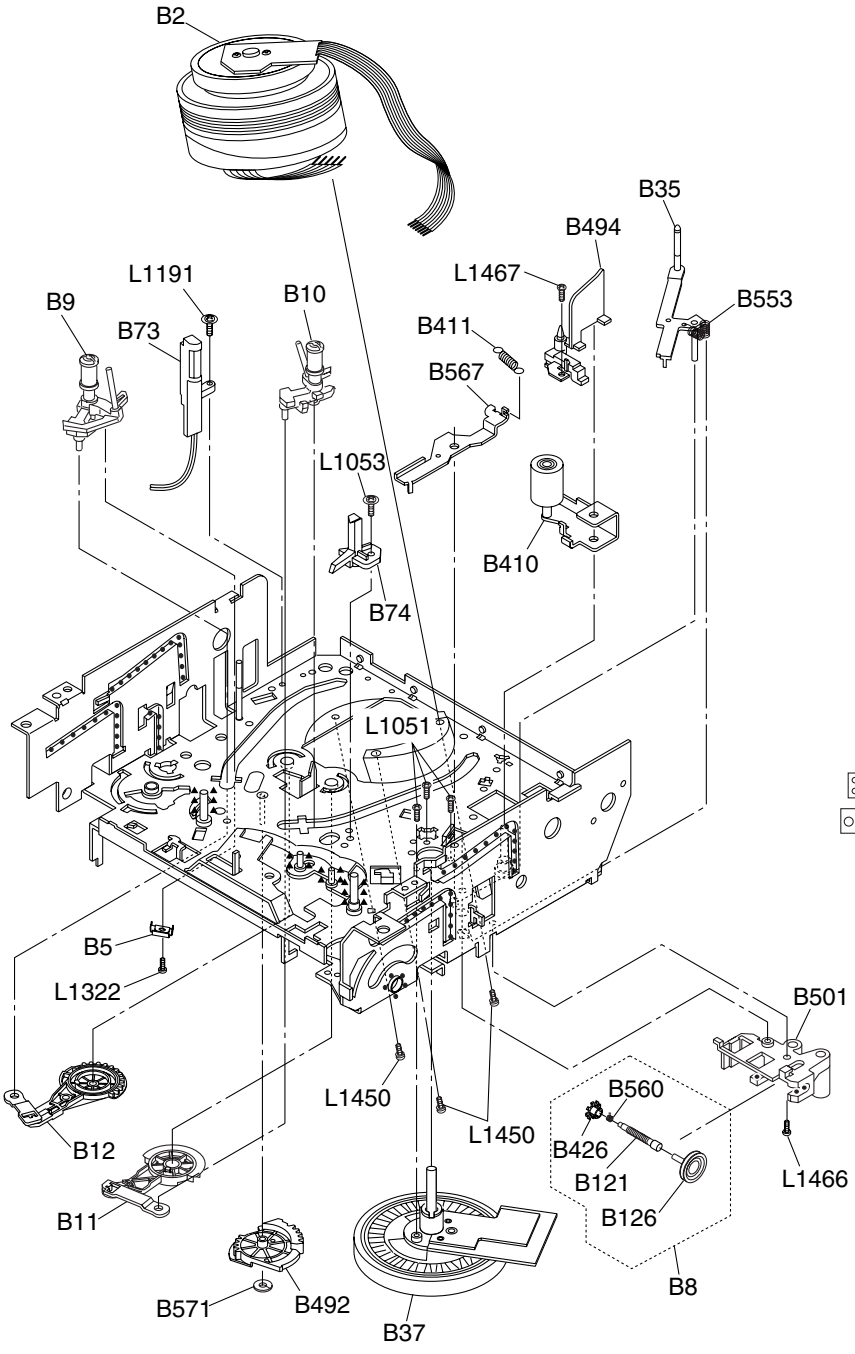


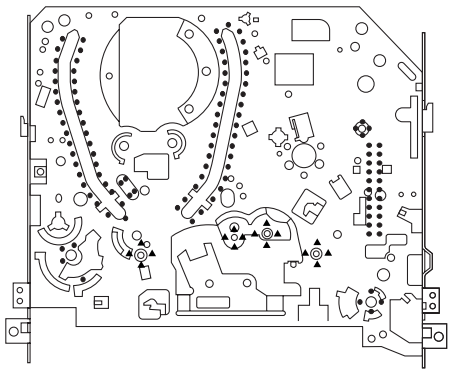
Fig. AL3

DECK EXPLODED VIEWS

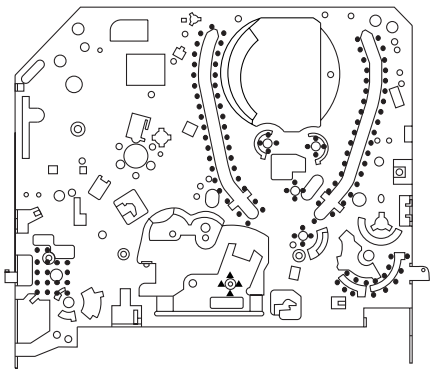
Deck Mechanism View 1

Mark	Description
•••••	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150





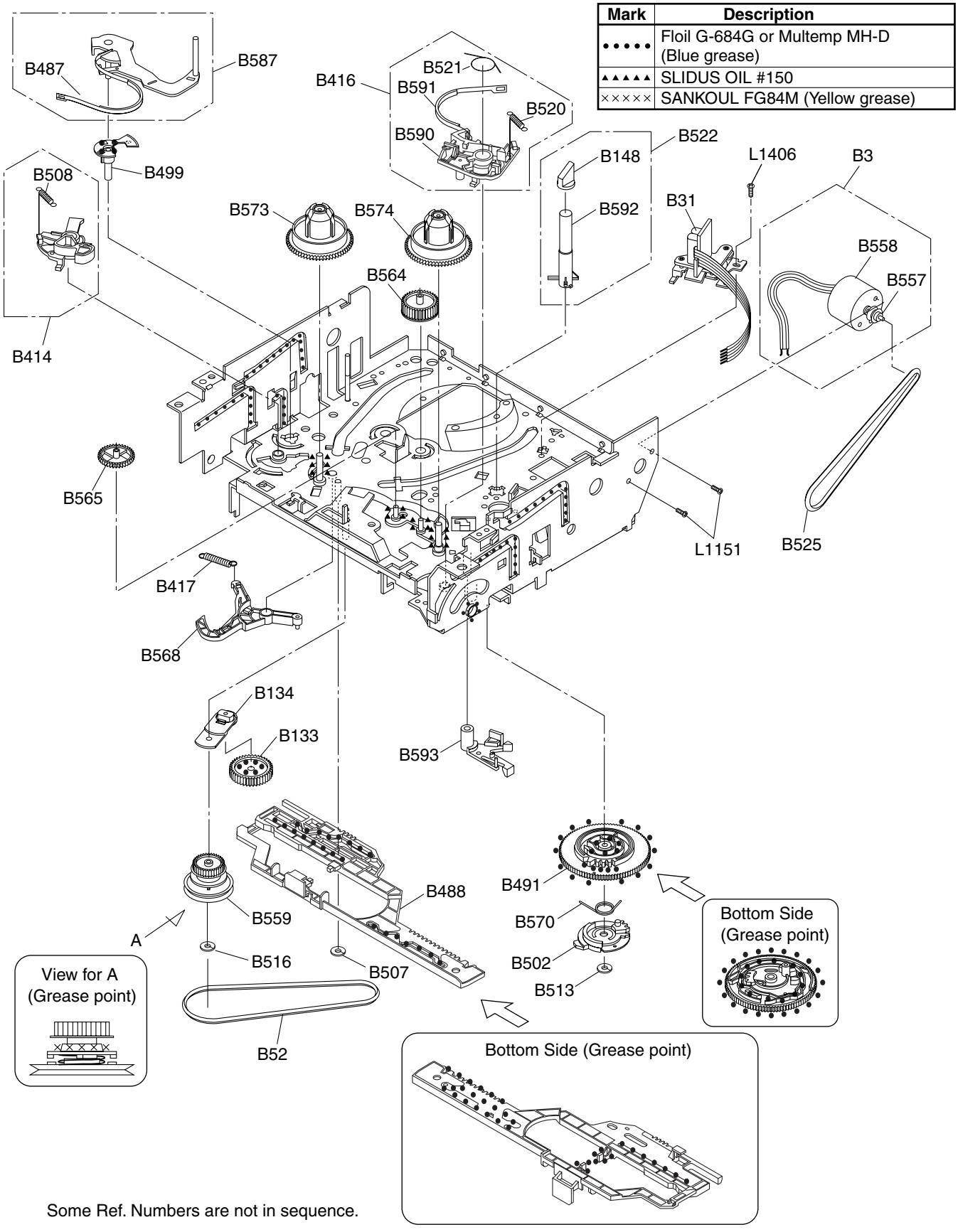
Chassis Assembly
Top View (Lubricating Point)



Chassis Assembly
Bottom View (Lubricating Point)

Some Ref. Numbers are not in sequence.

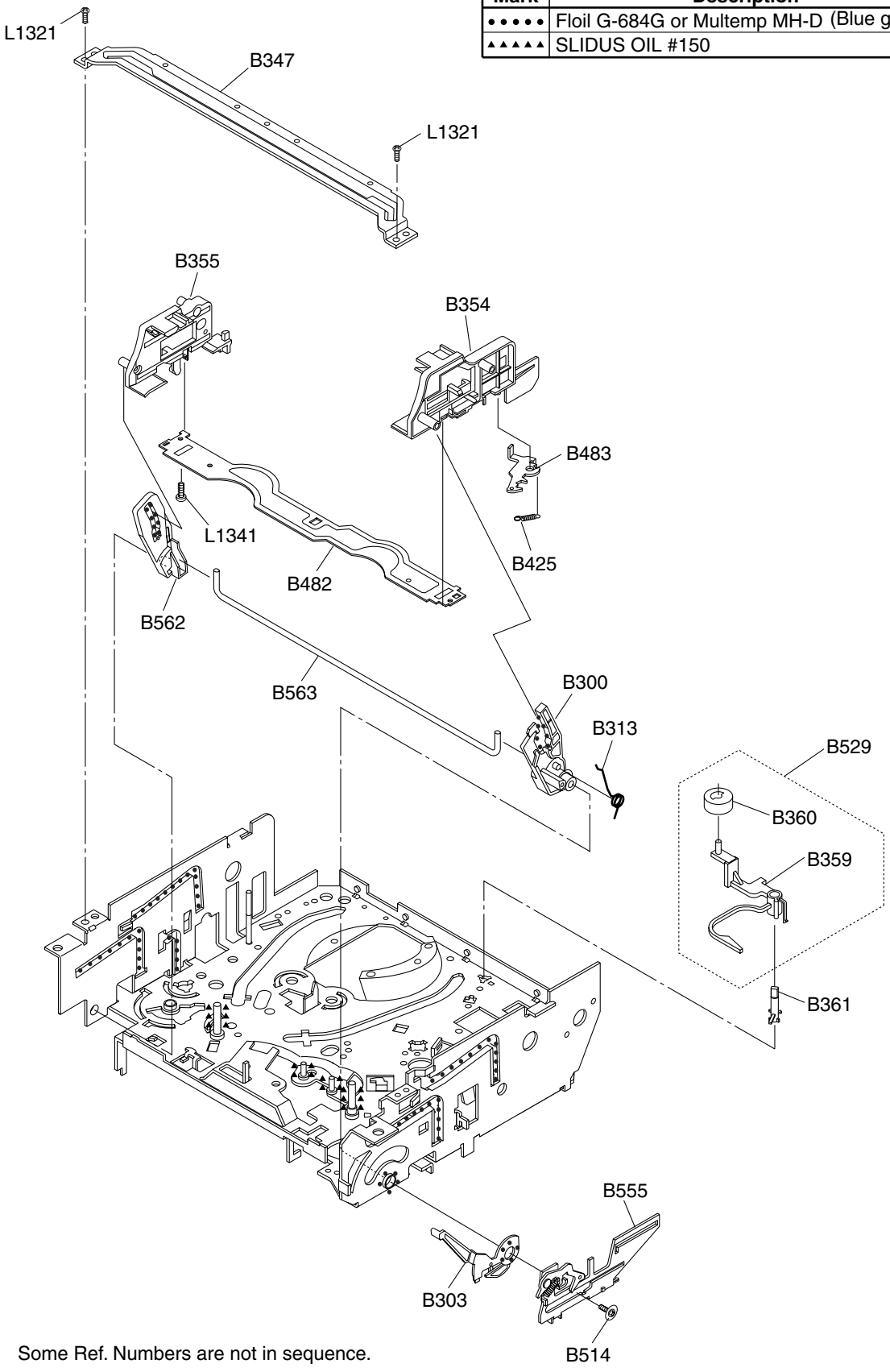
Deck Mechanism View 2



Some Ref. Numbers are not in sequence.

Deck Mechanism View 3

Mark	Description
●●●●●	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150



Some Ref. Numbers are not in sequence.

DECK PARTS LIST

Ref.No	Description	Part No.
B2	CYLINDER ASSEMBLY MK12.5 NTSC 6HD	N2268CYL
B3	LOADING MOTOR ASSEMBLY MK12.5	0VSA14636
B5	SLIDE PLATE MK12.5	0VM416429
B8	PULLEY ASSEMBLY MK12	0VSA13500
B9	MOVING GUIDE S P.P MK12.5	0VSA14717
B10	MOVING GUIDE T P.P MK12.5	0VSA14639
B11	LOADING ARM(TU) ASSEMBLY MK12	0VSA13300
B12	LOADING ARM(SP) ASSEMBLY MK12	0VSA13299
B31	AC HEAD ASSEMBLY MK12.5	0VSA14841
B35	TAPE GUIDE ARM ASSEMBLY MK12.5	0VSA15014
B37	CAPSTAN MOTOR 288/VCZC1300	N9680CML
B52	CAP BELT MK10	0VM411138
B73	FE HEAD(MK11) MH-131SF11 or	DHVEC01Z0005
	FE HEAD(MK12) VTR-1X2ERS11-155 or	DHVEC01TE005
	FE HEAD(MK12) HVFHP0047A	DHVEC01AL007
B74	PRISM MK10	0VM202870
B121	WORM MK12	0VM414091
B126	PULLEY MK12	0VM414330B
B133	IDLER GEAR MK12	0VM305738
B134	IDLER ARM MK12	0VM305739
B148	TG CAP MK11	0VM412972
B300	C DRIVE LEVER(TU) MK12	0VM203773
B303	F DOOR OPENER MK12	0VM203751C
B313	C DRIVE SPRING MK12	0VM414145
B347	GUIDE HOLDER A MK10	0VM304920
B354	SLIDER(TU) MK12	0VM101172F
B355	SLIDER(SP) MK12	0VM101182H
B359	CLEANER LEVER MK10	0VM304413
B360	CLEANER ROLLER MK9	0VM410032C
B361	CL POST MK10	0VM411114
B410	PINCH ARM(A) ASSEMBLY(6) MK12.5 or	0VSA14935
	PINCH ARM(A) ASSEMBLY(5) MK12	0VSA13788
B411	PINCH SPRING MK12	0VM414644
B414	M BRAKE(SP) ASSEMBLY MK12.5	0VSA14994
B416	M BRAKE(TU) ASSEMBLY MK12	0VSA13283
B417	TENSION SPG(3002645) MK12	0VM414221F
	TENSION SPG(3002645) MK12.5	0VM414221G
B425	LOCK LEVER SPRING MK10	0VM411110
B426	KICK PULLEY MK10	0VM411095
B482	CASSETTE PLATE MK12	0VM203749
B483	LOCK LEVER MK12	0VM414095
B487	BAND BRAKE(SP) MK12	0VM305723
B488	MODE LEVER MK12.5	0VM101351
B491	CAM GEAR(A) MK12	0VM101174
B492	MODE GEAR MK12	0VM203769
B494	C DOOR OPENER MK12	0VM305719
B499	T LEVER HOLDER MK12	0VM305729
B501	WORM HOLDER MK12 or	0VM203767
	WORM HOLDER(R) MK12	0VM204324
B502	CAM GEAR(B) MK12	0VM305721
B507	REEL WASHER MK9 5*2.1*0.5	0VM410058
B508	S BRAKE SPRING MK10	0VM411121
B513	CAM WASHER MK12	0VM414741
B514	SCREW RACK MK10	0VM411535
B516	REEL WASHER MK9 5*2.1*0.5	0VM410058
B520	TU BRAKE SPRING MK12	0VM414285

Ref.No	Description	Part No.
B521	REV BRAKE SPRING MK12	0VM414222
B522	TG POST ASSEMBLY MK11	0VSA12080
B525	LDG BELT MK11	0VM412804
B529	CLEANER ASSEMBLY MK10	0VSA11161
B553	REV SPRING MK11	0VM412555
B555	RACK ASSEMBLY MK12	0VSA13289
B557	MOTER PULLEY U5	0VM403205
B558	LOADING MOTOR M31E-1 R-14 7401	MMDZB12MM007
B559	CLUTCH ASSEMBLY MK12 or	0VSA13284
	CLUTCH ASSEMBLY(64) MK12	0VSA14459
B560	KICK SPRING MK10	0VM411475A
B562	C DRIVE LEVER(SP) MK12	0VM203772
B563	SLIDER SHAFT MK12	0VM305762
B564	M GEAR MK12	0VM305735
B565	SENSOR GEAR MK12	0VM305736
B567	PINCH ARM(B) MK12	0VM305718
B568	BT ARM MK12	0VM305728
B570	CAM RACK SPRING(HI) MK11	0VM412923
B571	P.S.W CUT 1.6X4.0X0.5T	0VM408485A
B573	REEL(SP)(D2) MK12	0VM203755
B574	REEL(TU)(D2) MK12	0VM203756
B587	TENSION LEVER ASSEMBLY MK12	0VSA13279
B590	BRAKE ARM(TU) MK12	0VM203752E
B591	BAND BRAKE(TU) MK12	0VM305724C
B592	TG POST MK11	0VM412550
B593	CAM HOLDER ASSEMBLY MK12.5	0VSA14634
L1051	SCREW, B-TIGHT M2.6X6 PAN HEAD+	GPMB9060
L1053	SCREW, S-TIGHT M2.6X8 WASHER HEAD+	GCMS9080
L1151	SCREW, SEMS M2.6X4 PAN HEAD+	CPM39040
L1191	SCREW, S-TIGHT M2.6X8 WASHER HEAD+	GCMS9080
L1321	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
L1322	SCREW, B-TIGHT M2.3X4 BIND HEAD+	GBMBY040
L1341	SCREW, P-TIGHT M2X6 PAN HEAD+	GPMP2060
L1406	AC HEAD SCREW MK9	0VM410964
L1450	SCREW, SEMS M2.6X5 PAN HEAD+	CPM39050
L1466	SCREW, S-TIGHT M2.6X6 BIND HEAD+	GBMS9060
L1467	SCREW M2.6X5 WASHER HEAD+	SCM39050

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